PART TWO

THE INDIRECT INFLUENCE OF FOLK MUSIC
CHAPTER FIVE

ANALYSIS OF THE PITCH CONTENT IN THE PIANO SONATA

Having briefly surveyed the various analytical approaches to Bartók's music in the Introduction, we must now examine our works under study in detail. *PS*, *Contrasts* and *VS1*, respectively, will be analysed from the point of view of Bartók's generation of pitch material and its relationship to folk music. The reason for the non-chronological ordering of these chapters is a stylistic one; Bartók's techniques are simpler and more clearly observable in *PS* and *Contrasts*, compared with the earlier *VS1*. Moreover, the influences of certain contemporary composers are more noticeable and less absorbed in the latter. To a certain extent, the same remark could be made regarding the influence of folk music, with the contrast between this and Bartók's art music resources often being extremely sharp. There is a greater sense of synthesis in his melody and harmony from about 1926 onward, signifying his full maturity as a composer.

The set order of the movements is not followed either, except in Chapter 6. This is because some movements provide clearer examples of the integration of folk music elements into the pitch content than others. As we saw in Part One, the finales of the works under study are more directly influenced by folk music and, consequently, it is logical that we should analyse them first, exploring their indirect influences.
PIANO SONATA: MOVEMENT THREE

As we have already seen, this movement is a monothematic rondo, based on melodic material from the opening rondo statement which in turn, is based on the quasi-folk tune in its 'vocal' version from the first episode. In addition to the links between the various linear statements, elements in the melodic lines frequently give rise to harmonic features. The folk modes employed in the melodic lines are projected onto the pitch simultaneities. It is usually not complete modes but rather segments of modes or even characteristic intervals which are prominent in the harmony. Consequently, the direct influence of folk music on the melodic material becomes an indirect influence on the harmonic material. This process can be observed in the first rondo statement:

Ex.1: PS, III, bb.1-8, pitch content.

The strongly pentatonic melody is accompanied by chords based on characteristic pentatonic intervals.¹ Most obviously, the opening melodic contour, F#-E-C#-B, is transposed and

¹ In the sketch of the rondo theme provided in "iii. tábla", p.92, of Somfai's essay, "A Zongaraszonának finaléjanak metamorfózisa" [Metamorphosis in the finale of the Piano Sonata], op. cit., the pitch content is the same transposed down a M.2, without octave doublings, and with the omission of one pitch, namely E in the opening chord (or D at the original pitch level). The addition of this pitch in the final version completes the verticalisation of the first 'line' (F#-E-C#-B).
sounded as a pitch simultaneity in the left hand (in b.8). As we can see from the analysis of the pitch content, melody and harmony in bb.1-4 are based on two separate pentatonic scales, a M.2 apart, and on the same scale in bb.5-8. Together, melody and harmony cover the dorian mode on E with an ambiguous seventh degree (D\(^b\)/D\(#\)), E being established as the tonal centre by positioning of the chords rather than the final note of the melody. In Chapter 1, it was shown that the melody is only half as long as an architypal Hungarian folk song. Allowed to run its full, 'normal' course, it would cadence on F\(#\), covering the dorian scale, F\(#\)-G\(#\)-A-B-C\(#\)-D\(#\)-E. This explains the appearance of both D\(^b\) in the harmony and D\(\#\) in the melody; the rondo statement is really bimodal, combining E and F\(#\) dorian, although these pitch collections are incomplete.

It is notable that this difference of a M.2 between the pitch collections of the rondo theme is encapsulated in the 'vocal' version (or quasi-folk tune) by a modification to the final 'line', in which the melody slips down to end a M.2 lower than would occur in an authentic folk song. In this way, the scale of the overall melodic line is changed from B dorian to a bimodal mixture of B and A (A being the final tonic), with a form of the heptatonia secunda covered (A-(B)-C-D-E-F\(#\)-G\(#\)):\(^2\)

Ex.2: PS, III, bb.74-81, pitch content.

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\(^2\) See 'Review of Literature', pp.51-2 for an explanation of the heptatonia secunda. The scale used in Ex.2 is the fifth mode of the heptatonia secunda.
The significance of the M.2 can be related back to the melodic line of the rondo theme which began with the fall from F#-E and included twelve other occurrences of this interval. The first bar of Ex.2 also shows this interval being used as a means of varying the melodic line. In this way, a melodic feature is projected onto the tonal progression of the theme.

The M.2 continues to play an important role in later statements of the rondo theme. In the extended versions in bb.100-110 and 248-64, the melodic line descends to E, having started on F#, thus following the same course as the quasi-folk tune in Ex.2. Both the 'flute' and 'violin' versions also include this slip of a M.2 in the tonic. The only melody which ends on the same pitch as it began is the third rondo statement in bb.157-71, which encompasses F# dorian, the mode implied in the first rondo statement but never actually employed.

The 'inverted' version of the rondo theme follows immediately after the first statement of the rondo theme. The harmonisation employed is even simpler than in Ex.1 (the rondo theme). Again, the strong pentatonic basis of the dorian melody is matched by a pentatonic chord, F-G-C-D, which harmonises with the A below it:

Ex.3: PS, III, bb.20-7, pitch content.

As was the case in Ex.1, the same Hungarian pentatonic scale (with the pattern, m.3-M.2-M.2-m.3) underlies melody and harmony, but the former is based on A and the latter on D.
Therefore, the addition of a 'passing' note, F♯ (the dorian sixth), creates a clash with F♯ in the chord, in a similar way to the 'passing' D♯ in the rondo theme which clashed with D♯. In spite of the melody being based on A, overall, the tonality of this bimodal passage is D, and consequently, the F♯/F♯ combination acts as a dual third degree. This contrasts with the tonality of E established in the first twenty bars; thus, the interval of a M.2 is operative at the tonal level in the opening of this movement.

Although this theme is only a partial inversion of the rondo theme, it is significant that the basic axis of symmetry for this inversion is E, the tonic. This can be seen better in a comparison with the true inversion of the rondo theme:

Ex.4: PS, III, comparison of the 'inverted' theme with the true inversion of the rondo theme.

Whereas the rondo theme begins a M.2 above the tonic, the inverted theme begins a M.2 below it. A notable feature of the true inversion is the 'passing' note, F♯, derives from D♯ in the original. Although the F♯ is not present in the melody in bb.20-7, it is maintained in the harmony and carries over the bimodal clash from the rondo theme.

The bimodality of this theme is resolved in its recapitulation, in bb.175-81, with both melody and harmony being based on G dorian:
As was the case in b.20, the melodic line enters a M.2 below the tonal centre of the preceding passage. In addition to the change in modality, the melody is now the top part and its ascending line (interrupted in b.182) is reflected by a descending bass dyad. Therefore, Ex.5 provides an example of Bartók's principle of variation, on the small scale.

The final line of the 'inverted' theme is used as material for a transition in bb.28-37, with the dorian segment passing through different tonal centres in a descending cycle of P.4s. As well as carrying over an idea from the 'inverted' theme, these segments relate back to the opening melodic contour of the rondo theme, especially in the outlining of F#-B in bb.28-30:

The cadence in bb.38-9 restores the tonality of D from the 'inverted' theme, with the alternation of chords on A and D in the bass being the reverse of the melodic contour in bb.20-7. In the tonal sense, this progression closes the first thematic 'group' (the rondo and 'inverted' themes). The bimodal chords also provide a summary of the pitch content of the opening themes and foreshadow the 'vocal' version (shown in Ex.2), as the following analysis attempts to show:

Ex.7: PS, III, pitch relationship between the cadence chords in bb.38-9 and the rondo/inverted themes.

We can view the first of these chords as being based on two dorian segments, a M.2 apart with a pentatonic basis. They could also be viewed as a combination of pitch collections outlining the heptatonia secunda and heptatonia tercia scales, producing a characteristic 'acoustic' sound (see above). This combination of modes on A and B is foreshadowed by the presence of A dorian in bb.20-30 and B dorian in bb.33-7. The addition of A# in this chord produces an eight-note pitch collection, altogether. Likewise, if we add up the number of pitches in the rondo theme and the 'inverted' theme, in both cases the total is eight, also resulting from the combination of pentatonic scales on different pitch levels (in the case of the rondo theme, also a M.2 apart) and including a dual degree (D♭-D#, F♮-F♯). The 'vocal' version (Ex.2) covers precisely the same eight pitches as in the cadence chords in bb.38-9. All these abstract pitch collections contain four wholetones and four semitones, although ordered differently. The result is a unification of melodic statements with harmonic ones through a logical process of manipulation of folk modes.
In the original sketch of this passage, the cadential chords consisted of superimposed sixths, maintaining the succession of sixth-chords leading into the cadence.\(^3\)

Ex.8: Sketch for PS, III, transition and cadence.

If we transpose the 'original' cadence chords up a M.2 and compare them with the chords in the final version, we can see that Bartók chose to strengthen the chords by verticalising the preceding scale segments and producing a thick, eight-note pitch simultaneity:

Ex.9: Comparison of cadence chords from the sketch with those from the final version.

Also notable is the absence of the resolution onto D in the sketch. Bartók probably added this when the full context of the movement was formed. Finally, the sketch shows three bars of cadence chords compared with just two in the final version.

There also appears to be a relationship between the pitch collections in Ex.7 and the cluster-chords that accumulate at the end of the 'vocal' and 'flute' episodes, in b.91 and b.156. Both cluster-chords consist of eight pitches, organised as four tones and four

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\(^3\) Somfai, \textit{op. cit.}, "iii. tábla", p.92.
semitones, as was the case in the cadence-chord. These collections are signified by $x$, the numbers referring to the different modes employed:

Ex.10: PS, III, comparison of pitch content of the cadence chords in b.91 and b.156 with that of bb.38-9.

Aside from the cadential nature of all these cluster-chords, there is no perceivable aural connection between them and the cadence-chord. Despite this, the coincidence seems too great to have been unplanned.

Bartók's method of variation in the recapitulation of this transition and cadence (in bb.182-204) is worthy of close examination. Once again, the scalar idea derives from modal segments from the 'inverted' theme; this time however, the positioning of the segments is changed:

Ex.11: PS, III, recapitulation of transition, bb.182-204.
If we shift bb.184-8 of the left hand part backward by two bars, the result (shown in Ex11b) is identical in pitch to bb.29-32, with differences in tessitura and octave doublings, only. By changing the synchronisation of modal segments in this passage, a greater overlap of these segments is achieved, resulting in more pungent, bimodal clashes (F# against F♯, C# against C♯, and G# against G♯). Moreover, the number of tonal centres passed through is varied from the original three to five (compare with Ex.6), thus extending the cycle of P.4s:

G - D - A - E - B

A sketch of the transition passage in the exposition is different to both versions examined so far, being more rhythmically complicated. In the following example, the sketch is transposed up a M.2 to facilitate comparison with the final version of the transition (from bb.28-39):

Ex.12: PS, III, comparison of the sketch of the transition with the final version.
Although the final version is rhythmically complex, it is simpler than the sketched version due to the regulation of the overlapping rhythmic patterns. He also emphasizes the cycle of fifths by allowing the P.5 simultaneities on the first beat of b.31 and b.33.4

The varied transition in the recapitulation leads into the cadence at bb.192-3, equivalent to the cadence in bb.38-9 but transposed down a M.2, (thus, on C). The new pitch level of the cadence simply corresponds to that of the 'inverted' theme in bb.175-81, which was also a M.2 below the version in the exposition. Once again, the M.2 plays an important tonal role. It is also prominent in the harmony, with Bartók varying the spacing of one of the cadence chords, as can be seen by comparison with the equivalent chords in the exposition:

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4 In the sketch, Bartók's intension seems to have been to use different barlines between the parts in this passage. This is a device he used in VS7, III,43 bb.1-9 (using the piano's bar numbers).
Ex. 13: PS, III, comparison of cadence chords in b.38 and b.92.

The M.2 dyads in bb.192-3 bind the cadence closer to the passage following, which is exclusively built from M.2s and M.9s.

In the exposition, the passage immediately following the cadence (bb.40-50) is also based on M.2s and M.9s but of course, it is varied from the recapitulated version. In both cases, the tonality descends a P.5, thus providing a continuation of the cadential progression which outlines a P.5; in the exposition, the key of D drops to G, and in the recapitulation, C drops to F. However, the path to these tonal goals differs in each instance:

Bartók's harmonic method here is characteristic; pentatonic and modal pitch simultaneities are gradually narrowed into chromatic ones. It is possible to view the four-note cluster-chords in bb.49ff and 198ff as 'chromatic' versions of the four-note pentatonic chord in bb.40ff and bb.194ff, both constructed from two dyads of a M.2. The pentatonic chord is nothing more than a harmonic version of the opening four notes of the rondo theme (transposed). In Ex.14a, it occurs in parallel motion between $B^b$ and $G^h$. In the transition from pentatonic to chromatic chord, other pitch simultaneities based on modal collections are touched upon and, in Ex.14b, a whole tone chord appears fleetingly. The derivation of chromatic pitch collections from pentatonic or modal ones is a basic technique in Bartók's music and one which we will see frequently in other places in the works under study. We saw the technique applied to melody in three instances from the works under study, in Part One of the thesis, and noted that it was the reverse of a device Bartók described in the 'Harvard Lectures' (the 'extension of range').\footnote{See pp.126.} The extension of this technique to embrace harmonic passages is hardly surprising considering the close relationship between melody and harmony already demonstrated in the work under study. Although the cluster-chords in Ex.14 arise logically through an harmonic process, we must also bear in mind that Bartók had apparently asked permission of the American composer, Henry Cowell, for the use of
cluster-chords during a meeting between the two, in 1923.\textsuperscript{6} Cowell is generally thought of as the 'inventor' of note-clusters, though we cannot place too much significance on this, considering some of the highly dissonant harmonies present in European composers' music prior to this. Bartók, himself, uses what could be termed cluster-chords in works pre-dating 1923, such as \textit{VS1}, although the employment of these sonorities is perhaps not so much an integral feature of the piece as it is in this movement of \textit{PS}. Bartók's request for permission to use cluster-chords might be attributed to his politeness and modesty.

Aside from the intervallic process, it is the isolation of and emphasis on the interval of a M.2 that dominates this passage. As we have seen, it is prominent in all spheres of pitch organisation thus far, demonstrating Bartók's ability to develop whole sections from a single pentatonic germ.

In the first episode in bb.53-91, the relationship between the opening, four-note line of the melody and its four-note, chromatic derivation is crystalized by the combining of the 'vocal' version of the rondo theme (the quasi-folk tune) with the cluster-chord. The melodic line of the first 'verse' (bb.53-73) is in the E mixolydian mode, encircling the chromatic wad on G; the overall tonality of G is maintained by the placing of this pitch at the bottom of the texture (and aided by the octave doubling):

Ex.15: \textit{PS}, III, bb.53-4 pitch analysis.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Ex15.png}
\caption{Ex.15: \textit{PS}, III, bb.53-4 pitch analysis.}
\end{figure}

The cluster-chord is maintained in the second 'verse' (bb.74-83), although varied in texture, while the melodic line is changed through the omission of the long notes of the first 'verse'

and the completion of the range, including the slip of a M.2 mentioned earlier (see Ex.2). This slip brings the melody to a close on A (instead of B), thus merging it into the lower half of the cluster-chord, outlining the dyad G-A. At this point, the bimodality of a M.2 is theoretically restored, the melody on A and the harmony on G; aurally, this bimodality is obscured by the persistent chromatic cluster-chord.

The static nature of the harmony in this and later episodes is typical in Bartók's music. While its purpose is to highlight the melody above, such static harmony could also reflect an influence from folk music. The only type of harmonic accompaniment Bartók heard in authentic folk music was the drone of the bagpipes, or imitations of the drone on the open strings of the violin or guitar. When discussing the arrangement of folk tunes, Bartók underlines this particular feature: 7

Indeed, many of the [peasant] melodies may have the most simple 'harmonization': one single chord (that is, one and the same chord) during the whole melody. In this manner, for example, the following melody (an old Hungarian tune from Transylvania) may be satisfactorily imagined with an ostinato accompaniment of the single chord:

\[ \text{\footnotesize \textit{\textbf{Ex. 15}}} \]

It is not difficult to see how this approach to settings of authentic folk tunes could have influenced Bartók's harmonic thinking in abstract works, especially in passages such as Ex.15, where a quasi-folk tune is involved.

The codetta that concludes the first episode is designed to distance us from the direct folk influences embodied in the 'vocal' theme. Although purely chordal, the codetta

does employ modal segments which recall previous melodic statements. The chords in b.84 and b.86, for instance, refer back to the final 'line' of the 'vocal' version, and outline the G dorian mode:

Ex.16: PS, III, bb.80-6, codetta to exposition.

It is possible to hear these diatonic cluster-chords as a memory of bb.40-41 and 43-48 where G aeolian (becoming phrygian in b.48) was outlined by the M.2 dyads. There is also a parallel between the progression of the right-hand tetra-chords in bb.84-7 ($b^b$-C-D-E to G-A-B-C#) and that in bb.46-9 ($b^b$-C-E-$b^b$-C to G-A-C-D; see Ex.14), which outlines a m.3.

Bartók extends the tetrachord, G-A-B-C# into a wholetone cluster-chord with the addition of $b^b$ D# and E#, and this produces a pitch collection complementary to the dorian tetrachord, $b^b$C-D-E (which is also extended into a wholetone cluster by the A in the left hand).

Altogether, eleven different pitches of the chromatic scale are covered in bb.84-91:

Ex.17: PS, III, bb.85-92, analysis of pitch content.
The twelfth pitch, F#, appears immediately following, being the first note of the new rondo statement. Here, then, is an example of basic serial procedure being applied to a link passage between sections. As we saw in Ex.10, the chord in b.91 relates to other chords and scales from earlier on in the piece. The wholetonal quality, in particular, relates to wholetone segments in the 'vocal' version and cadence chords in bb.38-9, as is shown above.

These cluster-chords also signify the culmination in the employment of the M.2 which dominates this opening section. What started as a prominent interval in the folk-like rondo melody and its harmonic accompaniment becomes isolated into scalic passages and bare dyads in the transition and is further moulded into a chromatic cluster-chord that eventually expands into the complementary, wholetone collection above. It also has significance at the tonal level, being the interval of bimodality on two occasions and the interval between the opening keys, E (the rondo theme) and D (the 'inverted theme' and part of the transition). The tonality of the first episode, G, forms a pentatonic 'cell' with the other two keys, which may or may not be a deliberate projection of a fundamental feature of folk modality onto the tonal scheme of the piece. Whether or not it is deliberate, the pentatonic tonal scheme in the opening 91 bars reflects the pentatonic basis of the rondo theme and its variants. Thus, the characteristic intervals of Hungarian folk music are manipulated to generate the pitch content, having an indirect influence on the music.

The pentatonic intervals, M.2 and m.3 are brought to the fore at the climax of this movement, in the last three bars on the final rondo statement (bb.262-4). At this point, the descending character of the quasi-folk tune is encapsulated by a purely pentatonic fall from F" to E':

Ex.18: PS, III, bb.262-4, pitch content.
The harmony in bb.262-3 is derived from the same pentatonic collection as the melodic line, heightening the 'purity' of this climactic moment. Instead of resolving onto a chord on E in b.264, however, Bartók harmonises the E with an chord on F#, thus re-establishing the 'true' tonality of the quasi-folk tune, the tonality that would have occurred if the slip of a M.2 at the end were not included. This harmonic progression functions as an interrupted cadence, sustaining the tension into the coda where E is reached only on the final chord of the piece.

The repeat of the rondo theme in bb.92-9 is followed by a considerably varied version in bb.100-10. In addition to the rhythmic development, the melodic line is extended to cover a partial bimodal mixture of E dorian (in the lower part of the range) and E lydian (in the upper). This combination of modes in the melodic line is not simply an artificial device, but one with a precedent in the fluctuating, unstable degrees of folk scales, as we saw in Chapter 1. It is notable that this is the first rondo statement where the melody cadences onto E. The same basic harmonisation (on E dorian) is maintained:

Ex.19: PS, III. bb.100-10, second rondo statement.
As well as the interval expansions in b.100 and b.104 which continue the process begun in the 'vocal' version (mentioned in Chapter 1), the final 'line' draws this version closer to the 'inverted' theme as is shown above. The total pitch content of Ex.19 can be organised symmetrically around B (and F, which is not present), although A# has no mirror image. The top half of the scale covers the hypolydian mode (or major scale) while the bottom half is a reflection of this, an incomplete phrygian mode:

Ex.20: PS, III, bb.100-10, pitch content.

It is notable that the pitch that mirrors A#, C$, is present in the final rondo statement, in b.251 (right hand chord). D occurs instead of C$ in the second draft of this work, however, which is consistent with the previous harmonisations of the rondo theme. Therefore, the change to C$ in the published version has two possible explanations: either it is a deliberate variation of the harmony, creating a more pungent bimodal relationship with the C#s leading up to this bar, or it is a misprint.

In the 'inverted' theme, we saw how the first and third 'lines', only, were inverted (see Exs.3 and 4). Following the second rondo statement, Bartók brings back this theme but re-inverts 'lines' 1 and 3 and changes the scale (and accompaniment) to produce a varied version:

Ex.21: PS, III, bb.111-8, 're-inverted' theme (plus end of second rondo statement).
The re-inversion of these 'lines' is not strict, as the scale is varied from a modal one to a form of the *heptatonia secunda* on D, the same form of the scale that appeared in the 'vocal' theme as a result of the M.2 slip (see Ex.2). A smooth transition from the rondo theme into this new version of the 'inverted' theme is accomplished by the scalic relationship between the final 'line' of the former and the first 'line' of the latter. Ex.21 also contains an harmonic analysis of the traditional triadic formations employed. The use of such triadic formations here suggests an ironic intention as was mentioned in Chapter 1. However, triadic formations are by no means an exceptional harmonic resource in Bartók's mature compositions, as will be demonstrated in other passages from the works under study; the harmonisation of the third rondo statement is a further example from this movement (see Ex.26). Characteristically, there is tension between the melody and harmony in Ex.21 caused by the deliberate pitch ambiguities, C♯-C, B°-B, and F♯F♯, although the final note of each 'line' fits into the triadic formation beneath it. Thus, the influence of folk music in this version of the theme is more distanced than in its original form, but it is still present in the strong four-'line' structure and the elements of modality and pentatonicism in the melody.

When this 're-inverted' theme is repeated in bb.119-26, the melody appears in the bass and the accompaniment is partially imitative for the first and only time in the movement, overlapping with the contrapuntal transition in bb.125ff. As Ex.21 shows, the middle part of the right-hand is loosely canonic with the melody:
A bimodal relationship of a P.5 exists between the bottom and middle parts, the former based on the fifth mode of the *heptatonia secunda* on D, and the latter on the same *heptatonia secunda* mode on A. The top part consists of a segment of the collection on D. This mode is the same one which evolved from the 'vocal' version in the first episode (see Ex.2). The 'false relations' that occur remind us of the type of bimodal clashes that were employed by some baroque composers as a result of the simultaneous use of the ascending and descending forms of the melodic minor scale. Bartók was aware of this from his interest in and research of early keyboard music, and described the effect in the second of his 'Harvard Lectures', as a lead-in to a description of his own bimodal methods. The particular form of the *heptatonia secunda* used in Ex.22 is identical to the ascending form of

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8 See BBE, p.367.
the melodic minor scale and, in combination with itself a P.5 above, has three 'dual' degrees, C, C#, F, F# and G, G#.

D is maintained as the overall tonal centre of this passage, despite the prominence of A in the right hand. This can be more clearly observed in an analysis of the pitch simultaneities, where an oscillation between dominant-acting and tonic-acting chords is present:

Ex.23: PS, III, bb.119-26, analysis of pitch simultaneities.

Because the final 'line' of this theme is slightly different to the equivalent one in the original, 'inverted' theme, the transition that follows is likewise varied, being based on this 'line'. In the English translation of Bartók's essays, the editor Benjamin Suchoff, cites this transition as an example of the type of polymodality Bartók discusses in the second of his 'Harvard Lectures':

Ex.24: PS, III, bb. 134-8, transition.

9 See ibid., pp.367-8.
The M.2 is the interval of bimodality, separating D and C dorian, the latter eventually being formed in bb.130ff. This interval (along with the m.2) is also explicitly stated in the scalaric passage in bb.133-6, as is shown above. As was the case in the 're-inverted' theme, the overall tonality is D, and this is maintained into the second episode beginning at b.143. The bimodal pitch content from bb.125-36 also carries over into the ostinato that is developed in bb. 137-42; D, E, E and F are maintained and C# is added, together forming a five-note, chromatic cluster-chord (see above). Although F is the bass note in bb.137-9, it eventually falls to the tonic, D♯.

In the process of ornamenting the main melody, the 'flute' version isolates the M.2 as its characteristic interval. This interval is also prominent in the accompaniment, with the bass notes alternating between D and E, and the cluster-chord outlining dyads and triads based on M.2s:

Ex.25: PS, III, bb.143-56, 'flute' episode.
However, the bimodal relationship present here is different to that of the first episode; the melody begins on C# and slips down to B, while the accompaniment is on D, compared with the melody in the first episode, which begins on B and slips to A, over an accompaniment on G. Therefore, Bartók not only varies melodic and harmonic details but tonal ones as well. The melodic line combines C# and B dorian (with the slip of a M.2 maintained), producing a pitch collection identical to that of the bimodal transition leading into this episode (bb.125-36). At the end of the melody, the accompanying cluster-chord grows into a full whole-tone collection as was the case at the end of the first episode. Here, the process of accumulation is concertinered into only three bars, the final pitch of the melody being absorbed into the chord.

The third statement of the rondo theme which follows episode two contains a paradox; it is the first version of the theme to be fragmented and not properly completed but also the first version to cadence in the 'correct' key, F#, thus avoiding the slip of a M.2 in the final 'line' of the melody:

Ex.26: *PS*, III, bb.157-74, third rondo statement.

\[\text{Ex.26: } \begin{array}{c}
\text{Più vivo, } \frac{d}{\text{d. ecm. 184}} \\
\text{F# dorian} \\
\end{array}\]

\[\text{10 In the second draft of *PS*, the cluster-chord in b.156 does not include the pitches } F\ddagger, G\ddagger, \text{ and } A\ddagger \text{. This bar is written, thus:}
\]

\[\text{The version of the chord in the published edition is consistent with the equivalent pitch collection in b.91 and therefore, relates to the earlier eight-note pitch collections discussed on pp. 286 of the present chapter.}\]
The pitch content for both the melody and harmony is F# dorian except for a temporary shift into G# dorian in b.169, with the presence of an A# in the melodic line and the emphatic G# minor triads in the bar preceding. This is the opposite of what happens in the earlier versions of the theme; the melody becomes bimodal by slipping up a M.2, rather than slipping down. As was mentioned earlier, this harmonisation demonstrates Bartók's willingness to use diatonic triadic formations in his abstract works. In this case, only two triads are employed, appearing successively in first and second inversions, and root position. What is unconventional about the harmonisation is the relationship between melody and harmony which is deliberately not synchronized so as to produce clashes of pitch. If we reverse the order in which the triads appear, a 'normal' harmonisation is created:

Ex.27: PS, III, 'normal' harmonisation of third rondo statement.

11 In the first draft version of this rondo statement, Bartók repeats the opening two 'lines' only twice, employing the first inversion and root position chords to harmonise the melody. See facsimile of second draft of PS, p.16. The extra repetition in the final version helps to build up extra momentum and makes this varied rondo statement more effective.
This type of tension between melody and harmony is a common feature in Bartók's music, the purpose being to make the melodic line more independent of the harmony and consequently, emphasize its significance.

In the equivalent place in the original version of this movement, another regular version of the rondo theme appeared with the harmonisation from bb.1-8, based on E. By shifting to F# in the revised rondo statement, Bartók avoids a return to the tonic and maintains the tonal tension into the recapitulation.

As we saw on p.277, the recapitulation of the 'inverted' version which follows the third rondo statement appears a M.2 lower than the original, on C (with the melody on G dorian). By concluding the rondo theme a M.2 higher than usual, Bartók creates a sort of symmetrical expansion of tonal areas as a means of varying the recapitulation. The way in which the music modulates from F# to C in the space of five bars (bb.171-6) demonstrates an aspect of Bartók's modal usage which is significant in the composer's technique:

Ex.28: PS, III, bb.171-6.

F# dorian in bb.171-2 becomes F# aeolian in bb.173-4 with the addition of D, the D becoming the tonic in b.175 by its placement at the bottom of the texture. Retrospectively,

12 See facsimile of the second draft of PS, p.14, second and third systems. (The music is crossed out in red pencil.)
the mode on D is lydian (D-E-F#-G#-A-B-C#). However, the D becomes the dominant degree of G dorian, outlined by the melody in bb.175ff. This mode has only two pitches in common with D lydian (or F# aeolian), and one in common with F# dorian; altogether, these consecutive modal segments cover eleven different pitches. Therefore, contrasting tonal areas are juxtaposed through the use of modal resources and without an harmonic 'hiccup'. This procedure could be described as 'modulation by horizontal polymodal chromaticism' as distinct from the type of polymodal chromaticism discussed by Bartók in his 'Harvard Lectures', where pitch content from more than one mode is simultaneously combined in any one phrase or melody. The latter was demonstrated in Ex.24, and is used on several occasions in the first movement, as we shall see later in this chapter. The horizontal type is most clearly shown in the example above, but also appears in other passages from this movement; for instance, in the transition from the 'inverted' theme to the first episode (bb.28-52) several scalic,modal pitch collections (A dorian, E dorian, B dorian and G aeolian) are juxtaposed, covering all twelve pitches of the chromatic scale in a short space of time. However, aside from the cadence chords in bb.38-9 and b.42, these modal collections are not combined simultaneously (although there is an overlap of the modal segments in bb.28-34).

The varied recapitulation of the 'inverted' theme and transition were discussed earlier. As we saw, the pitch level of these passages is a M.2 below that of the exposition. This is also true of the third episode which follows, it being based on F in comparison with the G tonality of the first episode. The third episode consists of an imitation of peasant violin playing, based on the quasi-folk tune. As we saw in Chapter 1, this imitation is made seem more authentic by the improvisational fragmentation of the melodic line. Despite this variation, the basic modality of the theme is maintained, beginning on A dorian and slipping down a M.2 to G in the final 'line' (in bb.213-14). This occurs over an accompaniment on F, producing the same bitonal relationship between melody and harmony as in the first episode. Although the harmony again consists of a four-note semitonal cluster-chord, the figuration is varied:
There is an interesting point to be made about Bartók's notation and tonal thinking in bb.213-14. For many bars the cluster-chord is written as $F^h\ G^b\ G^h\ A^b$, but is changed to $F^h\ F^\#\ G^h\ A^b$ in bb.214ff. The reason for this enharmonic change is a tonal one; Bartók seems to want to emphasize the modulation in the melodic line from the modal centre of A to G by 'encircling' the latter pitch by its upper and lower leading-notes, $A^b$ and $F^\#$. This promotes G to the status of fundamental tone in terms of the notation, adopting Gillies' theory of tonality and modality.  

13 It is debatable however, whether or not the composer considers G to be the overall tonic at this point as we might logically assume from the notation because the $F^h$ at the bottom of the texture maintains a strong tonal pull. Perhaps the notation requires the performer to emphasize G more than the other pitches so that its tonal significance can be perceived aurally.

13 See Malcolm Gillies, "A Theory of Tonality and Modality: Bartók's Last Works", op. cit., pp.122-3, and 'Review of Literature', p.63-4. Since Gillies' theory applies specifically to Bartók's later works, observations such as the one above (and others in this chapter) are tentative only.
The notation of the equivalent passage in the exposition is not consistent with the above, however:

Ex.30: PS, III, bb.80-2.

Although A becomes the new tonic of the melody and is emphasized by *marcato* markings (and separate stems), this pitch is not encircled by G# and B\(^\flat\); A# is maintained in the harmony. The pedal-note, G\(^h\) is the overall tonic, because of its placement at the bottom of the texture and its persistent reiteration through to b.91. It could be that, in this case, Bartók opted for a simpler form of notation because of the complex cluster-chord that grows in the bars following Ex.30. The use of G# instead of A\(^b\) in b.91, for instance, would be pedantic considering the nature of the sonority at this point. As is well known, Bartók bemoaned the inadequacy of the Western diatonic system of notation when applied to music which freely employed all twelve pitches of the chromatic scale. The inconsistency above is one small example of this inadequacy.

The codetta to this theme in bb.217-26 is considerably varied from the equivalent passage in the exposition. M.2s and M.9 dyads relate back to the transition (bb.194-205) while the quartal chord that emerges from these in bb.222ff provides a type of harmonic summary of the main melodic outline:
The quartal chord relates back to the simple pentatonic-based harmonies of the rondo and 'inverted' themes, and acts as a dominant preparation for the tonality of E. There is a notable parallel between the progression onto this dominant-acting chord in bb.219-22 and the final progression of the movement in bb.278-81, where similar chords descend onto the tonic.

The dominant function of the codetta is carried over into the passage following (bb.227-47), which builds up to the final rondo statement by fragmenting the main melody to an extreme degree over a modal cluster-chord:

Ex.32: PS, III, bb.227-47, lead-into final rondo statement.
As was the case with earlier rondo statements, melody and harmony are united by a common pitch content, namely E dorian. The only pitch omitted from E dorian in this passage is F#. Bartók avoids this pitch in order to heighten the freshness of the rondo theme's appearance in b.248, which begins on F#; a similar 'serial' effect occurs between the end of the first episode and the beginning of the second rondo statement. The alternation between the pitches B and A in bb.239-45 re-emphasizes the M.2, the dominant interval in this movement. Ex.32 shows that the composer is unafraid to base entire passages on a single folk mode. In the context of this movement the plain modality does not sound oversimplistic or banal, but rather represents the consummation of previous modal statements, building up to the high point in the movement.

The final rondo statement is the climax of the movement and the sonata, with the 'culmination point' in bb.262-4 laying bare the pentatonic basis of the main melody and reaffirming Bartók's allegiance to the folk music of his native country. In its broad expanse, this statement is similar to the climax of the finale of String Quartet No.4, where the pentatonic-based melody played by all four instruments is allowed to soar far and wide (see bb.272-316). In both cases, the melody is bimodal, with the melodic line from PS covering segments of E lydian and dorian.

The unexpected cadence onto F# dorian in b.264 leads the music onward tonally, into the brief coda. This coda is purely harmonic (and rhythmic, of course), contrasting with the melodic passage in bb.248-64. Its abstract nature is characteristic in this context; as Somfai points out, codas such as this one are intended to distance the listener from the romantic, folk-like 'culmination point' preceding it. The same thing happens in the String Quartet No.4, V, with the coda recapitulating the abstract ideas from the first movement. In
terms of pitch content, however, the harmony in the coda maintains the modal qualities of earlier material; the folk influence is now completely indirect. An incomplete F# dorian collection changes to E phrygian in the final nine bars:

Ex.33: PS, III, bb.265-end, coda.

The shift of a M.2 from the modality of F# to that of E sums up one of the basic melodic and tonal progressions in this movement. It also produces another example of what was earlier labelled 'modulation by horizontal polymodal chromaticism' although the chromaticism is incomplete, ten different pitches being covered in the coda. The use of the phrygian mode at the end might be viewed as a parallel with the tendency in classical sonata form to move to the 'flat' side of the tonality. Of the modes employed in this movement, the phrygian is the 'flattest'. F, the characteristic flattened second degree, is also the only pitch not covered in the final rondo statement. (In fact, it last appeared in b.220.) By carefully reserving it until the last two bars of the movement, Bartók creates a greater sense of finality. There is also the suggestion of a long-distance polymodal chromaticism, from the final rondo statement to the end, the twelfth pitch only being sounded as a result of a modal change.
The chords in fifths relate back to the quartal chords that appeared in the codetta to the third episode (see Ex.28), and are an harmonic summation of the outline of the main melody (including the slip of a M.2). As Somfai writes, "...the basic E-tonality acquires a major lustre by the piling up of fifth intervals into chords, "purer" acoustically than the traditional major third". M.9s become M.2s in bb.274ff, re-establishing the harmonic importance of this interval.

This movement provides a good introduction to some of Bartók's fundamental compositional techniques based on folk music resources. At the most basic level, melody and harmony share the same folk mode, as in the lead into the final rondo theme statement. A more common procedure, however, is the combination of two different modes, in the melodic line or shared between two parts (melody and harmony). These bimodal textures are not bitonal, however, with a single fundamental pitch being always clearly defineable. Melody and harmony are further unified by the projection of prominent, characteristic intervals (chiefly the M.2) in the melody onto the pitch simultaneities. Prominent melodic and harmonic intervals are also used to determine bimodal relationships and even long-distance tonal relationships. There are no examples in this movement of complete polymodal chromaticism, where the entire chromatic scale is covered through the combination of different modes. However, there are several passages which exhibit a tendency towards polymodal chromaticism, where pitches from one mode are complementary to those from another. Complementary pitch collections also occur through the use of abstract scales such as the whole-tone scale and the heptatonia secunda (not used in its 'acoustic' form). Although these scales are abstract, their origins can usually be traced back to modal resources. When complementary chromaticism is applied to homophonic textures, it serves to give the melody more independence, aurally.

Having created modal pitch simultaneities from melody, Bartók proceeds to derive more abstract simultaneities. The thick cluster-chords which are one of the avant-garde features of the piece, have clearly discernible origins in the folk modes employed earlier.

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14 Somfai, 'Notes' to Bartók Béla Piano Music 8, p.7.
The repertoire of abstract harmonies with folk roots is comparatively small in this movement - as we shall see in the other movements from the works under study, Bartók has a rich variety of harmonic resources at his disposal.
PIANO SONATA: MOVEMENT ONE

Bartók's musical language in the first movement is more complex than in the finale. There is plenty of direct folk music influence, with two quasi-folk melodies and elements of instrumental folk style (as we saw in earlier chapters), but the derivation of pitch content from quasi-folk material is perhaps less obvious. Five distinct themes are presented in the exposition, all with folk-like characteristics and all related to each other by intervals or melodic turns of phrase. The intervallic qualities of these various melodies provide important building-blocks for Bartók's harmony and tonality. In this way, the direct influences of folk music are filtered through to deeper levels in the music. In addition to this, cohesion is obtained through the continuous rhythmic pulse, with quaver-movement maintained virtually throughout the movement.

For the sake of comparison, the melodic lines of the five main themes from this movement are presented together:

15 For the formal analysis of this movement, see Appendix 2. By identifying five distinct themes in this movement, I have complied with Somfai's analysis - see "Analytical Notes", VIII, "Thematic Contrast and Organic Construct in a Sonata Exposition (Piano Sonata, first movement)", op. cit., pp.40-5. The use of several themes in a sonata form exposition has precedents in classical music; the first movement of Beethoven's Piano Sonata op.10 no.2, for instance, contains four distinct themes in a fairly short exposition.
Ex.34: PS, I, comparison of melody in the five main themes.

It is the M.2 above all which binds these melodies together. This interval, along with the m.3 and p.4 are characteristic of Hungarian pentatonicism, and assume a prominent role throughout the movement. All three intervals are encapsulated in the cadence of theme 4 (see above). This cadential idea reoccurs in several places during this movement, most prominently in the coda, at bb.247-8. In his analysis, Lendvai describes this idea as the leitmotif of the movement, "The seed out of which the whole organism of Bartók's Sonata
He reduces it to a basic pentatonic 'cell' which is projected onto the harmony in theme 1:

Ex.35: Lendvai's derivation of the pentatonic cell from theme 1, PS, I.

Lendvai states that the low D in b.15 (part of the chord, E#-A#-D) has melodic meaning, in terms of the pentatonic leitmotif. However, as the D is part of a low, percussive sonority and also doubled an octave higher in the ostinato, it is doubtful whether we can interpret it melodically. Rather than stretching the leitmotif concept too far, we can simply view the pitches D-E-G as part of a pentatonic harmony which relates to the modal melodic fragments presented in the opening bars. This theme is a good example of the way in which Bartók creates an integrated melodic and harmonic texture, as we shall see.

Theme 1 is motivic in character, the basic melodic idea being presented in Ex.34, above. As we saw in Chapter 4, the fleeting semitonal clash between A♯ and A# (and D♯/D# in the second entry) gives the impression of a 'scuffed' note or mistake. G#-A#-B is the main progression, as can be ascertained from the third entry (E-F♯-G, without a 'scuffed' note) and later appearances of this idea (in the development section, for instance). In the context of E major, the tonality of the movement, A# is the characteristic raised fourth degree of the lydian mode, and this is projected onto the harmony along with the other main melody notes (G# and B) in the bars following:

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While the chord on the first beat of the bar firmly establishes the tonic, the one on the second beat acts as a sort of modal dominant, helping to define the home key. The combination of A# and D in the E major context produces a pitch collection based on the 'acoustic' scale, or the first mode of the heptatonia secunda (E-(F#)-G#-A#-B-(C#)-D). The oscillation of a M.2 between G# and A# in the middle part is reflected in the bass by the progression, E-D. In b.6, this symmetrical progression is expanded around the B pedal note, covering a form of the heptatonia tertia:

As was the case in bb.1-2, the second entry of the three-note idea is integrated into the harmony, forming a pentatonic 'cell', B-C#-E (Ex.35). The C# in the harmony adds the sixth degree of the 'acoustic' scale outlined in the opening line. Moreover, the C#-B dyad is isolated as an harmonic entity by the individual stems, and carried over into the chords following. The accumulative harmonic process is completed with the varied third entry, which proceeds to blossom into a fuller if fragmented melodic statement.

In bb.14ff, the new harmony can be viewed as a mixture of two equivalent pentatonic segments on E and A#, with the E not sounded but implied. The P.4 is used as
the basic building block for this bimodal complex, which grows logically out of the preceding bars and in particular, the main melody notes, G#-B, C#-E, E-G#.

Ex.38: PS, I, development of harmony in bb.1-14ff.

P.4s in the harmony are also matched by the outline of this interval in the melodic line in bb.17-18, and elsewhere. As we shall see later, bimodality between E-A# recurs in this movement and fits into a scheme of bimodal relationships. Also of significance in Ex.38 is the arrangement of the pitch content in bb.14 ff into a 1:2 model (with the melody outlining a partial, complementary 1:2 model). It is characteristic of Bartók to progress from harmony and melody based on diatonic sounding scales such as the 'acoustic' scale to more chromatically-based harmony and melody, in this case based on the 1:2 model. The relationship between these two scale types is quite close, the upper part of the 'acoustic' scale consisting of a segment of the 1:2 model. The progression from diatonicism to chromaticism within sections of a movement is common in Bartók's music - the same process was observed in the opening fifty bars of the finale of PS, where the clear modality of the rondo and inverted themes led into bimodality at the cadence, followed by the gradual evolvement of a semitonal cluster-chord.

Although there is a change of harmony in b.14, modulation from the tonality of E does not occur. This is partly due to the melodic line which rises and falls back to E. In the context of the preceding bars, the bimodal chord also sounds rooted in E, and it is here that
Lendvai's concept of 'axis' tonality would seem to have relevance. The tonic, E, is combined with its 'counterpole', A#, and the pitch content outlines the 'axis', thus:

Diagram 1: Lendvai's tonal 'axis'.

This is how Lendvai himself views the chord in b.14. However, he approaches it not in terms of pentatonicism but in terms of traditional triadic harmony. His analysis comes from a sub-section of his book entitled "Major-Minor-Subminor". Briefly, Lendvai describes the harmonic progression in bb.1-14ff as a bringing together of tonal areas closely related to the opening E major - namely, C# minor (the relative minor in bb.7-13) and E minor (tonic minor in bb.14ff). He interprets D as the seventh of an E major seventh chord, and A# as the root of an A# 'subminor' chord (A#-C#-E-G#). In b.14, C# minor (or A# 'subminor') changes to C# major (or A# minor), while E major changes into a combination of E minor and G major. The point of Lendvai's analysis is to demonstrate how a tonic triad can be

17 For an exposition of Lendvai's 'axis' system, see his *The Workshop of Bartók and Kodály*, pp.269 ff, or 'Review of Literature', pp.45-8 of this thesis.
added to or substituted by another triad without disturbing the essentially tonic nature of the chord: 19

Ex.39: Lendvai’s harmonic analysis of PS, I, bb.1-14ff, .

![Diagram 2:](image)

Although Lendvai’s concepts on chordal substitution and axis tonality are well presented in this section of his book, the particular analysis above forces his concepts onto a passage that does not lend itself convincingly to this approach. There can be no dispute about the E major triads at the beginning, but the labels C# minor and A# 'subminor' for the chords in

19 This example is based on Lendvai’s analysis, but is not an exact reproduction of one of his examples.
bb.7-13 are inappropriate, given the actual construction of the chords. The C# above the E major triad creates an 'added sixth' effect, lending a modal flavour to the tonic chord. Likewise, A# is undoubtedly a lydian fourth and a characteristic member of the 'acoustic' scale, and not the root of an A# 'subminor' chord. The polymodal chord in bb.14ff is built in p.4s and exudes a pentatonic flavour rather than sounding like different major and minor triads superimposed. A purely triadic view, therefore, fails to adequately describe the intervallic nature of the harmony. Reference to folk modality is imperative.

Having said as much, it is interesting how Lendvai's triadic view works better in bb.26-35 of theme 1 (which he omits from his analysis). Following the brief recurrence of the opening E major triads and alternating dominant chord, the bimodal complex returns in bb.20-5. At b.26, the first real modulation occurs with the harmony shifting up a p.4 in parallel motion. However, not all the chord is retained; the pitches equivalent to E and A# from the previous chord, namely A and D# are omitted, producing a chord that can be arranged into superimposed F# and Cmajor triads, in first inversion:

Ex.40: PS, I, basic harmonic progressions, bb.21-35.

Once again, triadic analysis is not altogether suitable for this chord because of the strong intervallic nature of the dyads E-F# and F#-G (isolated with separate stems). In tonal terms, however, the description of the polymodal chord as F# + Cmajor triads is a useful one; in Lendvai's terms, this chord has a subdominant function, belonging to the 'axis', A-C-D#-F#. Despite the absence of A and D# from the chord, the basic parallel shift up a p.4 in bb.25-6 is enough to enforce this subdominant quality:
Diagram 3: movement to the subdominant tonal area on Lendvai's 'axis'.

As can be seen in Ex.40, the freely moving melodic line is on C, outlining the p.4, F-C, equivalent to A-E in bb.14-25. The two-note fragment, B-C, is related to its transposed inversion, G-F# from bb.24-5.

In the coda of this movement, the polymodal chord from bb.14-25 is further reduced:

Ex.41: PS, I, reduced version of polymodal chord, bb.236ff.

At this late stage, the bare bones of the chord are all that is needed to remind the listener of the opening theme.
The cadence chords in bb.36-7 are a typical sonority in Bartók's harmonic language. Isolated from its context, it could be viewed as a combination of major and minor triads on A, with the fifth (E) omitted - hence, the collection, A-C♯ C#. Such major/minor chords occur frequently in Bartók's music and, according to Lendvai, the triad is usually in first inversion, with the minor third above and major third below. However, the chord in question is in root position with the minor third below the major third. Its particular construction comes about through the 'swapping of parts' from the previous bar with C# from the F# major triad in the lower part transferring to the upper part, and the C♯ vice versa:

Ex.42: PS, I, progression to cadence, bb.35-7.

This technique of part 'swapping' was seen in the finale of PS, and occurs elsewhere. At the beginning of the development section, for instance, a modulation is effected (from E to D) through the 'swapping of parts', as shown in Ex.56. In the example above, the 'swapping of parts' creates the effect of an harmonic shift, with the chromatic descent of the A♯-C# dyad to A♯ C in the bottom part. With the return to the tonic E following the cadence, the chords in Ex.42 define the subdominant more emphatically. The emphasis on the subdominant A, and its subsequent fall to the tonic closes theme 1 tonally, reversing the earlier progression from tonic to subdominant. Moreover, the cadential fall of a p.4 is a most characteristic progression in Hungarian folk music, as we saw in Part One. This progression is matched by the prominence of the p.4 in the melody and harmony of theme 1 which results from the influence of folk modality.

As well as closing theme 1, the cadence (bb.36-7) and codetta (bb.38-43) also maintain the bimodal relationships during this theme and thus sustain the harmonic
momentum. C# is tied over from the cadential chord, forming the 'added sixth' above the E major triads that follow. The opening melodic idea returns, this time outlining the pitches A#-B#-C#. By analogy to the modality of b.1, this progression implies F# lydian with C# becoming a 'dominant' pedal-note just as B was a dominant pedal note in the opening:

Ex.43: PS, I, basic tonal relationships, bb.26-46.

Thus, the F# tonality of bb.26-35 is implicitly maintained, forming a bimodal mixture with the overall tonic, E. F# is then explicitly stated in the bimodal accompaniment to theme 2 which follows.

The dual 'closing' and 'opening' function of the cadence in bb.36-7 is fully realized when theme 2 begins on A, and with the same major/minor sonority. Moreover, theme 2 eventually ends on the tonic E, outlining the same plagal descent (from A to E) as occured in bb.36-43. Therefore, the tonal scheme of theme 2 is foreshadowed by the cadence in theme1, helping to fuse these two contrasting themes together. In addition to the tonal connection, there is an intervallic one between the opening melodic progression C-D in b.44 and the same progression in bb.34-5, just prior to the cadence:

The overall phrygian nature of the melody line in theme 2 was remarked upon in Chapter 1, with the chromatic alterations and doublings in thirds helping to distance the folk modality. The bitonal accompaniment to the melody comprises the alternation of just two pitches, C#(a pedal-note) and F#, an example of the prominent use of the P.4 in this movement. (For the complete theme 2, see ch.1, Ex.33)
Ex.44: PS, I, pitch content of theme 2, bb.44-56.

The F# is carried over from bb.37-43 to the accompaniment of theme 2, but is connected with C# below it, forming a typical Hungarian 'plagal' progression. C# is sustained as a pedal-note and becomes the modal centre of the accompaniment. Thus, the interval of bimodality between this and the melodic line is a M.6, between E and C#. Griffiths claims the intervals of bimodality have a "clear structural importance", but draws attention to bimodality between C$^{b}$ and C# in theme 2, ignoring the overall modal centres. Referring again to Lendvai's 'axis' system shown in Diagram 1, the modal centres E and C# both belong to the tonic axis, with the overall tonic being E. The combination of E phrygian and the the dyad, F#-C#, covers a chromatic collection of nine pitches, while the three remaining pitches are touched upon as altered melodic notes. This is an example of polymodal chromaticism, a characteristic technique of Bartók's which we saw in the finale.

Some of the chromatic alterations to the melody line in theme 2 were described as 'mistake-imitations' in ch.4. At the same time, these alterations also show Bartók's concern for pitch variation on the small scale. One tendency in these alterations is discernible; they occur at the peaks of upward melodic phrases and are consequently made to stand out:

Ex.45: PS, I, melodic extracts from theme 2.

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20 Paul Griffiths, *Bartók*, p.117,
Theme 3 leads directly on from theme 2 and grows organically from it. E phrygian, in its 'pure', white-note form, is maintained in the lower part, while the C#-F# dyad in the upper part is extended to cover the 'black' notes of the piano, eventually cadencing on A#. Thus, a polymodal chromatic mixture of E phrygian and A# pentatonic is formed, covering all twelve pitches of the chromatic scale and fitting into Lendvai's tonic 'axis' (E-G-A#-C#). The combination of modal elements from E and A# relates as far back as b.14, and the polymodal chord based on pentatonic segments from the same centres:

Ex.46: PS, I, theme 3 (plus codetta), bb.57-73.
The use of $B^b$ in the bass rather than an A# lends support (in this case, at least) to Antokoletz's arrangement of folk modes into symmetrical complexes based on interval cycles.\textsuperscript{21} We can arrange the pitch content of theme 3 above, into a complete cycle of fifths symmetrical around E and A# (or $B^b$) thus:

Diagram 4: pitch content of theme 3 expressed in the cycle of fifths.

As well as being the abstract centre of symmetry, E and A# are the two centres of modality. The role of the $B^b$ in the bass is clarified by Diagram 4; it is an extension of the left hand pitch content in terms of the fifths cycle and is at the opposite 'end' of the cycle to A#. Therefore, it takes on a different meaning and is consequently spelt differently.\textsuperscript{22} There appears to be no other good reason why Bart\'ok should have written $B^b$, otherwise. The semi-mirror movement between the right and left hand parts would seem to justify a symmetrical approach to the pitch organisation in this particular theme.

Referring back to Ex.34, we can see the strong intervallic links between this theme and the preceding ones, particularly with regard to the M.2. Most directly, the P.4, C#-F#, refers back to the accompaniment to theme 2 and, in combination with the M.2s (e.g. C#-D#-F#), the pentatonic 'cell' mentioned with regard to theme 1 is prominent. The emphasis on the slurred M.2s is, perhaps, a reference to the characteristic 'appoggiatura' subjects from classical sonata form movements, as Somfai suggests.\textsuperscript{23} The presence of a $B^b$ pedal note in theme 3 destabilizes the E tonality in preparation for the shift to the second subject group, based in a different tonality (or tonalities). Momentum is maintained by the

\textsuperscript{21} See the brief description in 'Review of Literature', p.57-62. Also see Elliott Antokoletz, \textit{The Music of Béla Bartók: A Study of Tonality and Progression in Twentieth Century Music} (Berkeley, University of California Press, 1984), chs.3 and 8.

\textsuperscript{22} In terms of acoustical qualities, the A# and $B^b$ are actually different pitches. See David Cope, \textit{New Music Composition} (New York: Schirmer Books, 1977), pp.82-3.

\textsuperscript{23} László Somfai, 'Notes to Bartók Béla Piano Music 8, p.7. See, for example, Beethoven's \textit{Piano Sonata} Op.13 ('Pathetique'), I, bb.52-89 (second subject).
overlapping of the cadence of theme 3 (another M.2) and the beginning of the transition, which features an ostinato pattern based on the lydian mode (having grown from E phrygian). The cadence figure is separated into a motive and developed rhythmically, from \( \text{\textbullet} \) to \( \text{\textbullet} \), thus relating back to the opening melodic motive of the movement (see Ex.34). There is a further notational puzzle in this passage; having consistently used sharps for the ‘black’ notes (except for the \( B^\# \) pedal note), Bartók introduces flats for three bars before reverting to sharps:

Ex.47: PS, I, bb.69-75.

The reason for the use of flats, here, is practical. The wholetone scale-segment, \( A^b-B^b-C-D-E \), would be awkward to read in sharps. Bb.74-5, leading into theme 4, are interesting for their variety and irregularity in scale patterns and pitch simultaneities, as we saw in Chapter 4.24 The lydian modality of the ostinato is extended into complementary wholetone segments which become chromatic in b.75. Manipulation of folk modes in this way is characteristic of Bartók, as we saw in the finale of PS.25 As well as destabilizing the tonality, these scale patterns and pitch simultaneities function as a preparation for the theme 4, which begins in b.76. First, the F lydian modality of the ostinato is transferred to C; second, the semi-wholetone scale \( A^b-B^b-C-D-E-(F^b)-F^#-(G) \) is maintained in the bimodal mixture that follows, including \( C-D-E-F^#-(G^b)-G^#-A^# \) (likewise, the wholetone pitch simultaneities in the transition are carried over into theme 4); third, the little chromatic figure, \( B^b-F^#-G \), in b.75, outlines the dyad E-G which becomes part of the ostinato in b.76; finally, the polymodal, chromatic nature of the transition crystallizes into another completely

24 See ch.4, Ex.21.
25 See present ch., p.284.
polymodal, chromatic texture in theme 4, consisting of C lydian (outlined in thirds) plus a form of D# heptatonia secunda:

Ex.48: PS, I, pitch content of theme 4, bb.76-92.

The tonal ambiguity of the melody line caused by the strong tonic-subdominant relationship between D# and G# was commented upon in chapter 1. Once again, the emphasis on the P.4 relates this theme to earlier material. Stevens describes the melody's tonality as G# minor while Griffiths claims the bimodal relationship exists between G# and C, both overlooking the folk music basis of the melody and consequently, its true tonality. The interval of bimodality with D# as the melody's tonic is an augmented 2nd, C-D#, equivalent to a m.3, which makes an interesting parallel with theme 2 where the interval of bimodality was a M.6, E-C#, the inversion of m.3. The m.3 has been prominent melodically (refer again to Ex.34) and harmonically. It maintains its prominence in this theme, with the outline of G#-B and E#-G# in b.81 and b.85, respectively, and the dyads in the ostinato (which sustain the major and minor thirds from themes 2 and 3, and the transition):

Ex.49: PS, I, ostinato accompaniment in theme 4.

It is possible to assume that Bartók determined the interval of bimodality by relating it to the melody and harmony which, as we have seen, are based on features from folk music. Therefore, we can find a folk basis for tonal relationships. The bimodal centres also outline the subdominant 'axis' (A-C-D#-F#) using Lendvai's system of tonality. Theme 5 maintains the subdominant 'axis' with the bimodal combination of E\textsuperscript{b} and A. The first movement therefore, follows sonata form principles by having its second subject group (themes 4 and 5) in a non-tonic area.

Another connection between this theme and themes 2 and 3 is the M.2s at its beginning (in bb.79-80). The manner in which this interval gradually expands in the course of the melody is also similar to the melodic development of theme 2, although the contour of theme 4 is more deliberately shaped:

Ex.50: PS, I, melodic curve in theme 4.

A strong parallel can also be made between the melodic progression in bb.83-4 and the fragment of theme 1 from bb.17-18 (and elsewhere). Significantly, this is the melodic progression Bartók chooses to develop at considerable length in the second 'verse', through
the use of rhythmic variation (see bb.99-108). This 'verse' of the melody in theme 4 is transposed up a P.5, the bimodal combination now being between G lydian and B♭ heptatonia secunda (and outlining the tonic 'axis'). Although rhythm is Bartók's chief element subjected to variation in this 'verse', the pitch content of the gracenotes also change, with the subdominant, E♭, being 'encircled' by D♭ and F♭. At the end of each 'verse', the final 'line' is repeated and varied, forming a distinctive cadential idea:

Ex.51: PS, I, bb.86-92.

This varied form relates, rhythmically and melodically, back to the motive which appeared in the transition between themes 3 and 4 (see Ex.47). In this way, thematic links between the first and second subject groups are made more explicit. Another 'long-distance', aural relationship exists among the accentuated bass-notes in the lower tessitura of the piano, stretching from b.57 (theme 3) through to b.116 (the beginning of theme 5):

Ex.52: PS, I, 'long-distance' tonal relationships between bass notes in the exposition.

27 See ch.8, p.548
The low B♭ in bb.112-15 provides a 'dominant' preparation for theme 5, on E♭, sometimes labelled the 'trio-theme'.²⁸ Appearing as the inner-part of the texture, the melody is based on inverted versions of 'lines' from theme 4 (right hand) combined with a memory of the original (in the left hand), as we can see below:

Ex.53: PS, I, theme 5, bb.116-34.

²⁸ See, for instance, Lendvai's *The Workshop of Bartók and Kodály*, p.207. He considers theme 5 as part of the 'central theme', which includes both themes 4 and 5.
Despite the application of an 'artificial' device such as inversion, the main melody line of theme 5 retains a directly folk-like quality, as was described in ch.1 (see pp.116). The polymodal combination between the two melody lines, plus accompaniment, covers eleven different pitches of the chromatic scale. However, the tonic of the main melody line is ambiguous. By analogy to the quasi-folk tune in theme 4, the melody in theme 5 cadences on E, in b.125; the theme continues, however, for another ten bars and the melody eventually ends on A. Lendvai opts for E, stating that he earlier had thought in terms of A major creating a "polar confrontation" with E, major (centred on the subdominant 'axis').

Perhaps it is possible to take both views, with the quasi-folk tune based on E, and the overall melodic line based on A, with A, as the overall tonic, a more complete polymodal mixture of A mixolydian and E mixolydian is established:

Ex.54: FS, I, pitch content of theme 5.

29 Ernő Lendvai, The Workshop of Bartók and Kodály, p.208. The description, "A major", is incorrect in terms of the actual scale of the right-hand melody, which is A mixolydian.
The omission of the twelfth pitch, F$^b_7$, is of interest. Bartók chooses to sharpen this pitch rather than allow a complete polymodal chromatic combination (as in themes 3 and 4). There are two possible reasons for this omission: first, the melodic progression, G-F#-G in the accompaniment echoes the right hand melody (at half the speed), and second, the F# produces a more pungent dissonance than a F$^b$ would in the same place. This is a small example of Bartók allowing aural considerations to take priority over theoretical perfection.

As well as the use of inversion and pseudo-mirror writing in theme 5, the pitch content has symmetrical qualities. Although the symmetry is not perfect, we can arrange the eleven pitches in this passage around the axes E$^b$-E and $A^b$-B$^b$, in the following manner:

Ex.55: PS, I, symmetrical pitch arrangement of theme 5.

The elaborateness of the treatment of folk modes along with characteristic features such as the E$^b$ pedal note and the arpeggiated chords give this theme a certain prominence in the overall structure of the first movement. Owing to its 'specialness', it is not recapitulated although elements of the theme reappear in the coda. This is why Lendvai describes it as part of the 'central theme', although his concept of the first movement's structure is faulty, as we shall see later. The prominence of theme 5 is heightened by the tonal tension between E$^b$, the tonic of the movement, and E$^b$, although this eventually gives way to the tritonal relationship between A$^b$ and E$^b$. An analogy can also be made between the bimodality of a tritone in theme 5 and the same bimodality in theme 3, with the combination of E and A$^#$. 
The five themes presented in this movement are contrasting in their character - the first is motivic, the second strident and featuring a melodic line doubled in thirds, the third more abstract and using the *appogiatura* idea, the fourth quieter and simpler and more obviously folk-like in melody and rhythm, the fifth also simple but somewhat bolder and featuring an arpeggiated accompaniment. Contrast of this kind is typical of classical sonata form with which Bartók was well acquainted, especially through his wide keyboard repertoire. As we have seen, however, he unifies these themes through rhythmic and intervallic means, and also by the use of melodic motive, with the head-motive of theme 1 returning in various guises during the exposition. Somfai makes a case for the five themes being "variations of a central idea", and states that Bartók's method of variation is his own, "...based on his study of variant forms and melody types in folk music". Although this is perhaps exaggerating the closeness in relationship between the themes, it makes sense when we examine Bartók's folk music transcriptions of variants, and consider statements such as that made by Kodály on p.89 of Chapter 1.

Having come to the end of the exposition, a review of the various polymodal relationships in the five themes reveals a definite pattern:

Diagram 5: (a) polymodal relationships and tonality in the exposition of *PS*, I.

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(b) Tonality in the exposition in terms of Lendvai's 'axis'.

The m.3 bimodality in theme 4 corresponds to the M.6 bimodality of theme 2, as stated before. The m.3 expands to the tritone in theme 5, corresponding to the contraction from the M.6 to the tritone in theme 3. Theme 1 establishes a single, central modality although the bimodality of later themes is prepared in the polymodal chord in bb.14ff. Diagram 5 also indicates the overall tonalities of these themes, with the first subject group defined by E, and
the second subject group by keys other than E. Such tonal analysis would appear to have no relevance as far as folk music is concerned but, as was shown earlier, it is possible to see the bimodality of a m.3 growing from prominent use of this interval in the melody and harmony which in turn, comes from Bartók's folk music experience. In this way, folk music influences Bartók's music at the deepest level of pitch organisation.

In bb.134-35, a tonal shift from E\textsuperscript{b} to D\textsuperscript{b} occurs as theme 5 ends and the development section begins. The modulation is achieved through the use of chromatic voice-leading, D\textsuperscript{b} being encircled by both lower and upper 'leading-notes', C\# and E\textsuperscript{b}. A characteristic 'swapping' of the parts also takes place, D\textsuperscript{b}'s in the right hand transferring to the left and B\textsuperscript{b}-A\textsuperscript{b} in the left transferring to the right:

Ex.56: PS, I, bb.134-5.

In the development section, material from all five themes is manipulated and varied in complex, fragmentary textures. Bb.135-54 include development of themes 1, 3, 4, and 5, while bb.155-75 are reserved for theme 2. Following this, there is a eleven-bar transition with the recapitulation beginning in b.186.

Lendvai's interpretation of the form is considerably different.\textsuperscript{31} He describes bb.135-54 as the recapitulation of theme 3, bb.155-75 as the recapitulation of theme 2, and the rest as the recapitulation of theme 1. There is no development section at all. Instead of sonata form, Lendvai views the movement as having a 'bridgeform', as follows:

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\textsuperscript{31} Ernö Lendvai, \textit{ibid.}, p.209. The labelling of the themes are my own, for convenience. The discussion of the form at this point was the subject of an exchange of views by Lendvai and Somfai.
Theme 1 ('Principal theme') bb.1-43
Theme 2 ('Secondary theme I') bb.44-54
Theme 3 ('Secondary theme II') bb.55-75
Theme 4+5 ('Central theme') bb.76-134
Theme 3 ('Secondary theme II') bb.135-54
Theme 2 ('Secondary theme I') bb.155-75
Theme 1 ('Principal theme') bb.176-end.

There are several problems with this interpretation of the form. First, the recurrence of theme 3 in bb.135-54 is combined with recurrences of themes 1, 4 and 5, as was stated before. Moreover, the elements of theme 3 are considerably varied so that the musical effect of this section is developmental rather than recapitulatory. Second, Lendvai ignores the recapitulation of theme 4 in bb.211-24 (and elements of theme 5, in the coda), which disturbs his 'bridgeform'. Finally, there is the aspect of tonality. Bartók only returns to the tonic, E, in bb.187ff, where theme 1 is reinstated in its original form (albeit abridged). In the section previous to this, the tonic is avoided (apart from a fleeting reference in b.137), following the precedent of classical sonata form. Lendvai's 'bridgeform', on the other hand, has no such tonal logic and therefore, undermines the importance of tonality in Bartók's music.

Lendvai's thinking was probably stimulated by the reappearance of theme 2 in bb.155-75, which has both a recapitulatory role, in that this theme does not recur later on, and a developmental function, in that this theme is extensively manipulated and varied. Its absence, along with the absence of its off-shoot, theme 3, in the recapitulation proper (bb.187ff) prevents the form becoming too laboured and predictable.

The development section can be divided into three main sub-sections: bb.135-54 (combination of melodic motives, building to a climax), bb.155-75 (development and recapitulation of theme 2) and bb.176-87 (development of the head-motive of theme 1, anticipating the recapitulation). Somfai states that this typifies Bartók's approach to 'development' sections, the composer espousing the idea that the "... central part of the
movement requires no greater variety than two or three blocks of homogeneous motion, since motivic elaboration here involves a danger of [too much] fragmentation".\textsuperscript{32}

In the first sub-section, five main melodic elements are employed, brought together by the persistent, pulsating movement.\textsuperscript{33} The thematic derivation of each of these melodic fragments is indicated in the following:

Ex.57: \textit{PS}, I, five melodic motives in bb.135-54.

Unification of these fragments is due to their common scalic character and intervallic development; the M.2 of element B grows into a m.3 in element C which is extended into a p.4 in elements A and E, relating to the diminished 5 in element D. Variety and independency is achieved through the distinctive rhythm and shape of each of the fragments. Despite the complex treatment, their modality remains largely unaffected and consequently, the folkiness of themes 1-5 is retained here. As Lendvai shows, the pitch content of the ostinato (element A) combined with element B is reminiscent of the pitch content of theme 3, in which a polymodal chromatic texture was formed between 'black' and 'white' notes.\textsuperscript{34}

\textsuperscript{32} Somfai "Analytical Notes", IX, "The Layout of a Development Section (Piano Sonata, first movement)", \textit{op. cit.}, pp.45-6.

\textsuperscript{33} Somfai identifies a sixth element in this section, the single \textit{staccato} notes, C\# (fourth quaver in the bass, b.141), E\#(second quaver in the bass, b.152) and D\#(fourth quaver in the bass, b.154). See \textit{ibid.}, p.46.

\textsuperscript{34} Lendvai, \textit{The Workshop of Bartók and Kodály}, p.209, an unnumbered example.
Ex. 58: PS, I, relationship between bb. 55-8 and bb. 142-43 (based on an example of Lendvai's)

Despite this analogy of pitch content, the overall tonality of the passage in bb. 135ff is based on D♭ rather than E♭.

To obtain a clearer idea of the workings of bb. 135-54, the following analysis assigns each melodic fragment a separate stave. We can observe the dominance element B has in the texture, spanning six octaves (eventually shrinking to just one octave at the climax):
Ex. 59: PS, I, analysis of bb. 135-55 in 'open' score.
Elements B and D work closely together on the 'black' notes, as they did in the transition in bb.69-75 (where the long, held note was not preceded by a grupetto). The long E♭ in bb.138-42 (which then transfers to element B) acts as an echo of the E♭ tonality of theme 5,
prior to the development. Likewise, the long F# in bb.145-54 carries over into the
recapitulation of theme 2, in bb.155ff. In this way, the sections are linked harmonically. In
contrast to elements B and D which are tonally static, element C gradually rises from $E_b^\flat$ onto
$D_b^\flat$ and prompts element A (the ostinato) to shift away from the tonality of $D_b^\flat$ on two
occasions. Nonetheless, $D_b^\flat$ is re-established as the tonal centre at the climax in b.154,
leading into theme 2.

In terms of pitch simultaneity, the melodic elements tends to be independent with
no obvious harmonic pattern arising. For instance, the 'black' notes of elements B and D
and the mostly 'white' notes of element A are mutually exclusive. Bartók does not follow
this plan strictly, of course, as we can see in bb.146-8 where element A is varied to include
the dyad, $A^b-B^b$ in combination with element B and D (although these pitches are deliberately
not sounded together). Pitch simultaneities involving elements C and E do not follow a
specific pattern, aside from avoidance of pitch doubling.35 The pungent dissonance of the
counterpoint is well exemplified by the appearances of element C, which are labelled in
Ex.59, above. The M.7s between elements A and D in bb.138-41 (a diminished octave, $E_b^\flat$
$E_b^\flat$) and bb.145-8 (G-F#) articulate the bimodality. Despite this, the various temporary tonal
centres indicated in Ex.59 are not obscured. On the contrary, the key of $E_b^\flat$ in bb.139-41 is
defined by the pitches, $F^b$ and $E^b$, which lead into it. Likewise, F# and A$^b$ in b.145 help
define the tonality of G in the bars that follow. The rather mysterious chord on the fourth
quaver beat of b.149 could be viewed as a verticalisation of element D, inverted, although
this seems a somewhat unlikely explanation. Whatever its origin, this chord has a
'dominant' function in the tonality of D:

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35 Somfai notes that element C in this section was only added later, to replace
further occurrences of element E. Without access to the first draft, it is not possible to tell at
what pitch level element E might have appeared. However, this change demonstrates the
freedom and flexibility of Bartók's approach to pitch organisation.
Ex.60: PS, I, possible origin of chord in b.149.

At the climax in b.154, bimodal clashes are brought to a peak with the combination of two complementary whole-tone segments, covering six adjacent, chromatic pitches (see b.154, Ex.28 above). We can conclude that the harmony in bb.135-54 is characterised by the avoidance of pitch duplication brought about by the dissonant counterpoint of the various melodic fragments. Far from being atonal, however, this passage is fairly static in tonality, with D\textsuperscript{b} being the main reference point. This is in contradiction of the traditional tonal instability of the development section in classical sonata form.

The dual recapitulatory/developmental function of theme 2 has already been mentioned. It is recapitulatory in that the strophic form of the original is maintained to start with, and despite variations, the texture is basically the same as in bb.44-55. 'Lines' 1 and 2 of the quasi-folk tune are stated with small variations, followed by 'line' 1 again, transposed down a P.4, and a further varied version of 'line' 2. The theme is then extended by development of these 'lines', each 'line' becoming progressively shorter until they melt into the ensuing ostinato patterns:

Ex.61: PS, I, bb.155-171.
(b) Element D and its use in theme 2.

The accompanying idea that punctuates this melody also functions in a dual manner. On the one hand, it recapitulates and varies the same idea from the original theme and on the other hand, it is a continuation of element D from bb.135-54, thus acting as an unifying agent for the development section (see Ex.61b).

This version of theme 2 is on A\(^\sharp\) (although it starts out on D), a P.4 above the original, and the basic scale of the melody is aeolian instead of phrygian. (In this way, the 'white'-note character of the melody is maintained.) Doubling of the melody in thirds carries over from the original but the irregularities of pitch occur more consistently so that the 'wrong'-note quality of these irregularities is less pronounced. Instead, a bimodal relationship between the lower melody (A aeolian) and its doubling a third above (C aeolian) is created, particularly in bb.161-75:
Ex.62: PS, I, pitch content in the recapitulation and development of theme 2.

Interspersed with this bimodality is the C#-F# dyad (from element D) which, taken by itself, belongs to an ambiguous mode on C# (as we saw in bb.44-55). It is possible, therefore, to describe this occurrence of theme 2 as trimodal, combining pitches from A aeolian, C aeolian and C#. For all its similarity to the original version, the pitch content of this theme is subtly altered. In the original, the bimodality is between E and C#; here, the C# is retained but E is replaced by A and C.

Interestingly enough, the original began on A with a dual third degree, C (in bb.44-7), which is the same basic chord (plus F#) that Ex.61 ends on, perhaps lending support for Lendvai's 'bridgeform' concept. The dual third degree, along with simple reiteration, helps to define A as the tonal centre of this trimodal passage. From the above, we can see how Bartók is able to manipulate folk modes and folk-like melodic lines to produce a complex, developmental texture in an abstract context.

The passage that follows (bb.176-86) acts as a transition to the recapitulation, also bringing back the codetta from theme 1 (bb.38-43). Again, this supports Lendvai's 'bridgeform', with the musical events occurring in reverse. However, whereas the codetta to theme 1 helped to solidify the tonic, E, this transition is tonally unstable, heightening the tension prior to the return of the tonic key. In modal terms, A aeolian briefly becomes F lydian while C# becomes part of the conflicting F# lydian:
The recapitulation of theme 1 is anticipated by the extension of element C in bb.176-9 and bb.182-6. Element B also makes a brief reappearance in bb.180-1. As well as being backward looking, this thematic fragment relates to melodic shapes from the recapitulation of theme 1 (bb.207-8). The implied F# tonality of element C is made explicit when the C# in the top transfers to the bottom and becomes part of an F# major triad. A further 'swapping' of parts occurs between bb.181-2, F# lydian returning to the top and F# to the bottom. However, Bartók chooses to notate the elements of F# lydian in terms of F# lydian, F# becoming E# and A, G: This shows that the composer considers the elements of F# lydian to have lost their melodic, modal independence and become absorbed into a monomodal
harmonic unit on F#.\(^{36}\) It is possible to make a relationship between the interval of bimodality (a m.2) in this passage and the prominence of the same interval, melodically (in element B). In this way, the characteristic interval between the fourth and fifth degrees of the lydian mode is used as an harmonic generator.

In order to sustain the momentum of the movement Bartók avoids recapitulating bb.1-13. Instead, he condenses the three entries of the opening melodic fragment (element C from the development) into a stretto which leads directly into the equivalent of b.14ff, which we saw in Ex.34.\(^{37}\) This stretto is led into by the various occurrences of element C in the development section, beginning in b.137 and ending with the melody on F# lydian in bb.176-85. The stretto begins a semitone above (although transposed down an octave), setting into motion a series of entries a semitone apart. When theme 4 is recapitulated in bb.211-25, the melody line is interspersed with reoccurrences of these stretti which are solidified into semitonal cluster-chords.

The momentum gained by omitting bb.1-13 is not only a melodic or durational one; harmonically, the music is prevented from sagging by avoiding a return to an explicitly E tonality (although the bimodal chord belongs to Lendvai's 'tonic' axis, as was stated earlier). The E major triads of the opening do not reappear, even in bb.191-3, the equivalent passage to bb.18-20 in which the triads were re-established. Instead, the complex bimodal chords from bb.14ff reappear, sustaining the harmonic tension but, simultaneously, creating the sense of return. A smooth harmonic change from the chords in the transition to the chords in the recapitulation occurs:

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\(^{36}\) A similar notational change occurs in Bartók's piano piece, \textit{Allegro Barbaro} (1911), in bb.199-212.

\(^{37}\) This is similar to what happens in the recapitulation of \textit{Contrasts}, I, where the two entries from the opening theme (on clarinet and violin, respectively) are brought together in close imitation (in bars 57-8).
The recapitulation follows the basic harmonic and melodic patterns of the exposition, until bb.209-10. There are, inevitably, variations, such as the harmonic change in bb.191-3, mentioned before, and an extension of the melodic range to include the pitch, A. This pitch is the axis of symmetry for the two incomplete, complementary 1:2 models that make up the pitch content of this passage:

Ex.65: PS, I, pitch content of bb.203-6.

In the exposition, the melodic line prior to the cadence ended on C; here, the melody drops a m.3 and, consequently, the ensuing cadence is also down a m.3, on F♯ (Thus, the cadence is on the subdominant 'axis' as was the case in the exposition, using Lendvai's system.) As was stated earlier, the tonality of F♯ is implied at various stages in the exposition. It appears in combination with F in the transition and is finally established more firmly at this cadence:
Ex.66: *PS*, I, bb.208-10.

The tonality of F# returns in the chords of the coda, in combination with E, in the melody, as we can see in Ex.41. Therefore, the relationship between the tonalities of F# and the tonic E would seem to be of some significance in this movement. It is certainly significant in the third movement where the prominence of the M.2 in the melody and harmony filters through to the tonality. The same parallel exists in the first movement; in all five themes, the M.2 is an important building block and unifying element. It is appropriate, therefore, that this interval is prominent in the tonality. The M.2 relationship between E and D is even more prominent in the tonality, as is summarised in Diagram 6.

Following the cadence in bb. 209-10, theme 4 reappears immediately, themes 2 and 3 being omitted because of their prominence in the development section. The bimodality consists of D lydian (accompaniment) and F heptatonia secunda (melody), outlining the dominant 'axis'. This bimodality is anticipated by the notation of the cadence chords prior to the theme, in which the dual third degrees of F# (A♭ and A♯) are spelt as A♭ and B♭. The interval of bimodality is the same as in the exposition. At the end of this theme the stretti on theme 1 lead into a semitonal cluster-chord which, in turn, transforms back into a modal sonority from the opening of the movement:
This modal sonority acted as the alternate, 'dominant'-sounding chord to the E major triads in bb.1-13. While suggesting a return to the tonic, Bartók again avoids a direct statement of E so as to further sustain the harmonic momentum. Where the coda begins, following these chords, is the subject of dispute. Lendvai claims it starts the moment the melody returns after the chords, in bb.233ff. In support of this is the appearance of an answering phrase to this melody in bb.247-8:

However, as Somfai points out, bb.233-4 consist of material from theme 4 and, therefore, can be considered as part of the recapitulation of that theme which began in b.211. In b.235, there appears a fragment of theme 5 which was prominent in part of the development section (bb.135-154) and links up with the melodic line at the piú mosso, in b.236. Consequently, b.235 is perhaps the more accurate starting point for the coda. One could also argue that b.236 seems a more likely place for the coda to begin, with its new tempo and the reappearance of the accompanying chords from theme 1. The new tempo, however,

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38 Lendvai, op. cit., p.683. This is discussed further in ch.9.
39 Somfai, "Válasz Aranymetszés ügyben" [Reply to the matter concerning the Golden Sections], Muzsika March, 1981, pp.31-2.
was only added by Bartók in the second draft. In any case, the close relation between the fragments from themes 4 and 5 seem to make determining the start of the coda a futile task.

We have already seen the strong relationship between tonic and subdominant degrees of the scale, born from the pentatonic influence, in the themes of this movement. This relationship is encapsulated in the melodic fragments of the coda which outline a P.4. In determining the various modes employed we have to make analogies to previous thematic material:

Ex.69: PS, I, modality in the coda with analogy to theme 5.

The extension of modal segments into a scalic passage in bb.244-6 creates a deliberate tonal ambiguity which is resolved in the cadence that follows. As was mentioned before, this cadence answers the phrase in bb.233-4 (by analogy to theme 4) as well as the downward-moving phrases directly preceding it. It also refers to a prominent motive from theme 1, prompting Lendvai to give it the status of a leitmotif. This 'culmination point' in the first movement also epitomizes the duality between East and West in Bartók's music. In Western terms, this phrase is in E ('major') and B becomes a 'dominant' pedal-note that resolves to the tonic in the final bar. In Eastern terms, B is the tonic and the move from E to B represents a 'plagal' cadence typical of Hungarian pentatonicism from folk music.
While the thematic material of the coda basically derives from themes 4 and 5 (the second subject group), the accompanying harmony belongs to theme 1. By analogy to the exposition, the chords in bb.236-44 are a pared-down version of the chords in bb.26-35 and those in bb. 250-9 correspond to those in bb.14-18, 21-5 (see Ex.41). As was the case in the exposition, the two chords are the same, separated by a P.4. By analogy to the exposition, it is an alternation of tonic and subdominant harmonies which finally resolve in favour of the former. However, the use of Lendvai's tonal interpretation for these chords is inappropriate anyway, since they are pared down from their original construction and sound tonally ambiguous. Their tonal ambiguity is heightened in the final nine bars of the movement where they freely oscillate in a percussive manner, along with the B 'pedal-note'. Even in the concluding chord the resolution to E in the top part is obscured by the unresolved chord in the bottom part:

Ex.70: PS, I, final two bars.

Tonality is established by the prominent melodic statements in the coda, the memory of which carries through to the end. The simple association of these sonorities from the beginning of the movement also helps to create a sense of return, and finality. They link up with the 'dominant'-acting chords in bb.227-33, in the same way bb.14ff linked with bb.1-13, further enforcing a sense of return. Harmonic banality or lameness is avoided by sustaining these tonally ambiguous chords to the end. The white-note glissando in the

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40 Somfai writes "...this last chord does not gravitate toward E but rather the axis-neighbour C-sharp". See "Analytical Notes", VI, "Metre-Breaking Rhythmic Patterns (Piano Sonata, Piano Concerto No.1)", op. cit., p.36, n.46.
penultimate bar provides an interesting co-relation with the phrygian-based sonorities at the end of the third movement.

Combined with the exposition, the development and recapitulation have the following basic tonal scheme:

Diagram 6: Tonal scheme in PS. I.

<table>
<thead>
<tr>
<th>Exposition</th>
<th>Development</th>
<th>Recapitulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Subject Group</td>
<td>2nd Subject Group</td>
<td>Coda</td>
</tr>
</tbody>
</table>

It is possible to see the appearance of F in the recapitulation as symmetrically balancing the use of D# (or E) around the tonic E♭ in the equivalent place in the exposition. What is most notable, however, is the overall tonal progression E-D-E between the three main sections. This relates to the prominent use of this characteristic modal interval in the melody and harmony. Moreover, this is the same progression as the one we found in the finale.

Although it was stated at the beginning that this movement is more complex than the third movement in terms of pitch, there are many techniques in common between the two: the derivation of harmony from melody, the use of modal and pentatonic resources, the use of the *heptatonia secunda*, the derivation of abstract pitch collections from modal resources, and polymodal chromaticism - these are exemplified in both movements in varying degrees. Polymodal chromaticism is much more a feature of the first movement, with the intervals of bimodality forming a pattern. Bartók makes the diversity of thematic ideas coher through his manipulation of certain pentatonic intervals. This is perhaps the most significant factor in common between the outer two movements.
In the episodes of the finale, the harmony consisted of simple static ostinati which highlighted the folk-like melodic lines as well as sustaining the rhythmic pulse. Static harmony and ostinati play an even greater role in the first movement, again highlighting the quasi-folk tunes. However, even when the thematic material becomes abstract in the development section (through the application of fragmentation and other devices), the harmonic rhythm remains slow with the tonality of D being clearly defined. This tendency towards harmonic staticism is characteristic in Bartók's music and probably derives from the influence of folk music, as we saw earlier in the chapter. Harmonic progression sometimes relates to characteristic folk intervals prominent in the texture (such as the 'plagal' p.4 in themes 1 and 2). It can also depend on the voiceleading, with devices such as the 'swapping of parts' which produce smooth modulations.

On the long-distance tonal level, the overall progression E-D-E provides a point of similarity with the finale. The M.2 is also prominent melodically and harmonically, and acts as a unifying agent in the movement.
PIANO SONATA: MOVEMENT TWO

Whereas the first and third movements of PS incorporate direct folk music influences into the melody and harmony, the contrasting middle movement does not imitate folk genres at all. "It is a kind of lament", as Somfai says, but does not directly use elements from peasant dirges or laments. Bartók did not know of Hungarian folk laments until the 1930s, well after composing this piece. Neither are the traditional dirge-like features such as dotted rhythms present, which we find in early Bartók works; the piece entitled "Elle ist morte", no.13 from Fourteen Bagatelles (1907), is an example. What the second movement of PS does have, however, is an intensely heavy and brooding atmosphere which possibly relates to the 'sound-world' of slow, sad Hungarian peasant songs (as was discussed in ch.4). This same atmosphere is to found in other abstract pieces of Bartók's, such as "Frustration" from the Ten Easy Pieces (1910) or the third movement from String Quartet No.2. Although there are no folk music genres imitated in this movement, the pitch content is pervaded in varying degrees by folk modes and melodic characteristics.

The brooding atmosphere is established in the first six bars which consist of one pitch (E) reiterated twenty times before falling a tone, accompanied by a single chord, A♭-E♭-F♭. When this opening 'theme' returns in bb.15-23, however, melody and harmony are gradually extended:

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41 See László Somfai's 'Notes' to Bartók Béla Piano Music 8, p.7.
42 In conversation with László Somfai, 1984.
43 See also Bartók's Two Elegies, op.8b, and Marche Funèbre, from the symphonic poem, Kossuth(1904).
Pitch content of the melody and harmony is constructed from two complementary pentatonic scales based on E♭ and A♭, as shown above. The chords are frequently outlined by the melodic line (although on a different pitch-level), making a close bond between them. Although the melodic line is not characteristic of Hungarian folk song, the pure, semitoneless pentatonicism creates a strong association with this source. In the traditional sense, this melodic line seems to lack direction, drifting aimlessly around the pitches of the pentatonic scale and occasionally being broken up by rests; it is not 'tuneful'. We can almost sense the composer slowly groping towards a goal, beginning with the simplest of elements, a repeated note. The oscillating, rather static nature of the melodies and harmonies in Ex.71 becomes a feature of this movement. In bb.15-21, it is possible to arrange the bimodal pitch content symmetrically around C, using the cycle of fifths:
This particular way of viewing the pitch content is justified by the prominence of E and A♭ in the pentatonic scales in Ex.71, these pitches being divided by the axis, C. Moreover, C is eventually established as the tonic of this movement and therefore, the abstract, symmetrical arrangement relates to tonality. In bb.22-3, the appearance of B completes the right-hand pentatonic scale and the axis of symmetry is changed to C-G (in terms of the cycle of fifths in Diagram 7). The new axis, along with the tonality of C, are explicitly stated in b.24 with the chord C-G-D on beat one.

While the pitch content in bb.15-21 may be considered bimodal (or bi-pentatonic, strictly speaking), in bb.22-3 the two pentatonic scale segments become mixed, with the melody including C and B♭ and the harmony, E♭.

Ex.72: PS, II, pitch content in bb.22-3.

Bimodality is replaced by modal chromaticism, following the distinctions Bartók, himself, made between the two techniques.44 This is a simple example of the composer deriving chromatic melody and chords from folk modes. In this instance, the function of the modal chromaticism is to create tension leading up to the end of a section and the return to the tonic, in b.24.

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Between bb.1-6 and the passage in Ex.71, a second theme appears consisting of widely-spaced chords that blossom into counterpoint in the ensuing bars. The drop from E to D in the melodic line, in bb.1-6, provides the 'cell' from which the melodic lines in theme 2 grow:

Ex.73: PS, II, bb.7-14, theme 2.

Free canonic writing and invertible counterpoint appear in the two top parts, in bb.9-12. Isolated from the left hand, these top parts seem quite 'traditional' except for the mixing of modes, so characteristic of Bartók:

Ex.74: PS, II, bb.9-12, right hand (dynamics, articulation omitted).
Bartók's growing interest in polyphony at this time can also be seen in the first of the *Nine Little Piano Pieces*, written about the same time as *PS*. Strict canon at various pitches is employed, creating a bimodal texture. Towards the end of the following example, the bimodality between the parts gives way to bimodal, chromatic melodic lines, as was the case in Exs.72 and 74:

Ex.75: *Nine Little Piano Pieces*, no.1, (no.1 of "Four Dialogues"), bb.1-13.

![Ex.75: Nine Little Piano Pieces, no.1, extracts.](image)

This piece also shares a similar melodic world with the second movement of *PS*. In passages following Ex.75, the melodic lines expand intervalically and become pentatonic in pitch content. With the return of four sharps in the key signature, the melodic lines once again move mainly by step and are intervalically narrowed, the modes becoming mixed:

Ex.76: *Nine Little Piano Pieces*, no.1, extracts.
We can observe a similar process in Ex. 71, from *PS*, II. The melody in bb. 17-21 moves by leap, covering pentatonic pitches, and then narrows in range, becoming chromatic through the mixing of modes. In both Exs. 71 and 76, the melodic lines have a twisting, turning character and rely for their interest upon small variations of rhythm and pitch. Such 'circular' melodies were to become a feature of Bartók's style in the years following; the fugal theme from *Music for Strings, Percussion and Celesta*, I, and the first theme from *Sonata for Two Pianos and Percussion*, II, are but two examples.

Although the various melodies in the first of the *Nine Little Piano Pieces* are not directly related to each other, there are enough similarities in rhythm, some melodic turns, and texture (i.e. the canonic principle) to bind them together into a convincing whole. Likewise, the melodies in *PS*, II, are not obviously linked but are unified by three common features: the same relentless crotchet pulse, the oscillating melodic contour, and certain related ideas:

Ex. 77: *PS*, II, melodic relationships (simplified).
Although there is no direct influence involved, the melody in bb.30-41 (from the middle section) uses chromatic pitch patterns similar to the types Bartók found in Arabic folk music.\textsuperscript{45} In his third 'Harvard Lecture', Bartók admits "...it is quite imaginable that they [Arabic melodies] may have influenced my works ...with their chromaticism."\textsuperscript{46} He goes on to cite a melody from his work, Dance Suite (1923), which incorporates the 'new chromaticism' mentioned in the 'Review of Literature' (where each pitch is independent, but centred around a durational tonic), and then says, "My second attempt [at writing a melody in this chromatic style] was made in 1926; on that occasion I did not try to imitate anything known from folk music". Here, Bartók lists a number of his works as examples, of which only the "musique nocturne" (the night's music) from Out of Doors originates from 1926. One of the chromatic melodies from this movement shows a similarity to the one from PS, mentioned above (see Ex.77, bb.30-41):

\textsuperscript{45} See ch.2, pp.170-1 for further description of chromatic Arabic melodies.

\textsuperscript{46} \textit{BBE}, 'Harvard Lectures', III. \textit{p.377}. A further description of this "new chromaticism" is made in the 'Review of Literature', \textit{p.38}.

This example is more obviously a 'melody' than the one from *PS*, the latter being stated as the top part of three-part chords.

Ex.79: *PS*, II, b.30ff, right hand. (b) Pitch patterns in melodic line, bb.30-41.

Nonetheless, by analogy to the melody in Ex.78, we can conclude that the melodic line in bb.30-41 may have been indirectly influenced by Bartók's experience of Arabic melody. Here, then is a third type of chromaticism, distinct from bimodality or bimodal chromaticism (in melody). None of the melodies in Ex.77 could be described as memorable which is Bartók's deliberate intention, as was commented on in relation to the first theme. Aside from the occasional contrapuntal passage, the chief interest in this movement lies with the harmony and its progression. As we saw in the outer two movements, harmony often develops from melody; an example of this was shown in relation to Ex.71 (theme 1) with the pentatonic melody outlining complementary pentatonic chords. In bb. 22-3 of this same example, the chromatic segment A-B♭-B♮-C is outlined in the melody and reflected in the accompanying chords, B♭-E-E♭ and A♭-E-F♭.

The harmony in this movement is characterised by bimodal combinations such as we saw in theme 1 (bb.15-21), with a tendency to avoid pitch doublings within individual
chords. The chordal gesture that opens theme 2 (bb.7-8) can also be viewed as a bimodal combination, between C lydian and C dorian (or aeolian since the sixth degree is not stated), producing dual third, fourth and seventh degrees:

Ex.80: PS, II, bb.7-8, pitch content.

By mixing the modes between the hands, Bartók draws our attention to the linear progression in the bass, F#-B♭-E♭ which is then stated as a simultaneity a semitone higher, on the third beat of b.8 (the right hand chord marked sf ). Bartók writes F# rather than G♭ in order to emphasize the C tonality of this passage - a G♭ would have implied a bimodal combination of C and E♭ minor (and would also be awkward to read along with G). The F# can be viewed as the lydian fourth degree and acts as a leading-tone to G♭, which becomes the secondary fundamental tone (C being the primary fundamental tone), to refer to Malcolm Gillies' theory of tonality and modality.47 Fundamental tones are those which occur in one form only in chromatic textures. Although Gillies applied this principle to Bartók's late works and folk music transcriptions only, it would appear to be implemented in the passage above. In the coda of this movement, however, F# becomes G♭ as part of a bimodal

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combination of $E^{b} - G^{b} - B^{b}$ (in the right hand) and $B-C-D-E-F$ (in the left hand). It is $D^{b}$ however, which is the tonal centre ('encircled' by $C#$ and $E^{b}$, and emphasized by reiteration and duration), and the third degree ($F$) is defined as a fundamental note by the upper leading-tone $G^{b}$. Therefore, Bartók's notation is a guide to determining tonal centres in such bimodal passages.

There is a similarity between the harmonies in bb.7-8 and the 'frozen' chord in bb.1-6, mainly due to the semitonal clashes that result from the bimodal combinations. A hidden melodic link between these two passages is also present; the $E-D$ progression in bb.1-6 carries over to $C$ in b.7 and this reappears in retrograd in b.8 ($C-D-E$ in the top part).

As we saw earlier, this simple melodic idea is then extended in the passage following. The chords from bb.7-8 are also further developed, producing a consistency in the nature of the pitch simultaneities:

The tonality of G is established in b.9-13 by the oscillating B-G and G-F# dyads in the bass. In addition to being the dominant of C, it provides a hidden resolution of the chord on A♭ in bb.1-6. In combination with this, the two-part counterpoint in F creates dual third, sixth and seventh degrees, the notation once again helping to define the overall tonality. The melodic progression by wholetones from F#-C in the bass, in bb.13-14, recapitulates the progression E-D-C in the treble, that linked theme 1 to theme 2. The F#-C progression in combination with G-F♭ Eb in the right hand also restores the C lydian/dorian (aeolian) bimodality from bb.7-8. When theme 1 returns in b.15, the harmonic change is effected partly through the 'swapping' of parts, with E♭ in the bass transferring to the treble and E♭ in the treble transferring to the bass (see above). The reverse process occurs in the final cadence of the movement, with Eb and E♭ forming a dual third degree over the tonic, C:

Ex.82: PS, II, cadence in the final two bars.

Pitch simultaneities in this opening section provide the basis for the predominantly chordal middle section, in bb.30-41. For example, four of the chords in bb.1-8 relate to the three basic chords in bb.30-3:
X, y and z by themselves define the modal centre of F# (major/minor), while the pedal-note defines the overall tonal centre, D♭. These chords are transposed up a m.3 (over the same pedal-note) in bb.34-7, creating a sequential phrase. As always, however, Bartók varies his material; chord z, for instance, is inverted in b.35 (see Ex.84 below). In bb.38-41, the third 'limb' of the sequence, chord x is replaced by a more chromatic sonority as the tension builds towards a climax. It is notable that the notation of y changes from C#-B-C♭ to C#-B♭-B#, indicating that C# is 'encircled' as the modal centre of the right hand chromatic progressions (with D remaining the overall tonic). The gradually rising inner-part in this section is independent of the surrounding chords, although it carefully avoids pitch doublings. (There is only one pitch doubling in this entire section, that being the G# in b.35, on beat two.) Below all this, the pedal-note on D supports the mounting harmonic tension while keeping the tonality static:

Ex.84: PS, II. bb.30-42 (middle section), analysis.
By itself, the right-hand chordal progression in bb.30-3 is based on F#, with the use of the dual third degree, A♭-A#. Despite the chordal variation, the right-hand in bb.34-7 is on A (being transposed up a m.3). Therefore, we can view bb.30-7 as being a bimodal combination of D and F# initially, and then D and A, the left-hand inner-part being basically independent. In the third 'limb', in bb.38-41, the modal implications of the right-hand chords give way to chromatic sonorities that outline a semitonal cluster.

B.42 is the harmonic goal of this section; here, the lydian-flavoured chord on C from b.7 reappears. The inner-part maintains its independence by pushing up to the 'lydian' F# of the chord, while the D pedal-note transfers to the top of the texture and C resumes its position at the bass of the chord.

In the coda, the tonality of D returns to a significant degree, reinforcing its importance in the middle section. The tonal relationship of a M.2 between D and the tonic of the movement, C, is reflected at the melodic and harmonic level. As we saw in the opening six bars, the only melodic progression was the M.2 between E and D; this progression returns at several points in the movement, almost as a motif (see bb.14-15, 43 and 59-62). Likewise, chords are frequently characterised by this interval, the one in the previous paragraph being a prominent example (where the M.2 appears as a M.9). In this way, Bartók unifies pitch organisation with tonal structure. As was the case in the outer movements, the unifying interval is sounded as an integral element of the pentatonicism which is prominent in theme 1. Therefore, it is possible to establish an indirect link between
the pitch characteristics of folk music and melodic, harmonic and tonal levels in Bartók's abstract compositions.

A more direct development of the chordal idea in bb.7-8 is the sequences which occur in bb.24-9 and 47-52. In the first of these, each 'limb' of the sequence appears a M.2 lower. The bass part of the third 'limb' is altered, creating a varied harmonic sonority in b.30, the beginning of the middle section:
The bimodality between C lydian and C aeolian (with the presence of the flattened sixth degree) is more explicit here than in bb.7-8, with dual third degrees sounded together at the extremities of the tessitura. The pattern of the three-note phrases oscillates from M.2-M.2 to M.2-m.2. Bimodality of a m.2 between $A_b$ and $A^b$ is caused by the 'slip' of a M.2 in the bass part, producing an abrupt shift to the tonality of A (which becomes the dominant to D in bb.30ff). The imitative writing in this, and the other sequential passage, replaces the contrapuntal passage in bb.9-12 which is not recapitulated.

The second sequence in bb.47-52 is considerably varied, most obviously by octave doublings and expansion of the pitch range which contribute toward the sense of climax. This process is led into by the big chords in b.46, which are thickened versions of the 'lydian' chord on C, from bb.7 and 42. Following the first 'limb' of the sequence, only a fragment of the melodic phrase is maintained. Each fragment in the top part is repeated a m.3 lower (except for a simple repetition in bb.49-50) while the bass line remains at the same pitch level, maintaining the tonality of C. As was the case in the first sequence, the
pitch-pattern of these melodic fragments oscillates from M.2-M.2 to M.2-m.2, heightening the sense of tonal instability.48

Ex.86: PS, II, bb.47-54.

With the return of the tonality of D in b.53, the coda begins. Two elements from the preceding sequence are maintained here: the step-wise bass line which is extended to encircle D symmetrically, and the E♭('minor') modality which is established in the right hand in bb.51-2:

48 The g..... markings in bb.49-51 (on beat one), in the Universal Edition of PS must be mistakes as the bass notes G# and F are too low for the piano.
Once again, Bartók achieves variety through the changing of octave doublings and the pitch level of reiterated notes. Although the bimodality between D and E\textsubscript{b} is new, the actual pitch content here refers back to the chords at the start of theme 2, as was mentioned earlier. A smooth transition is made from this passage to the return of theme 1 in the final four bars. This is achieved simply through the association of similar pitch material:

\begin{ex}
\textit{Ex.88: PS, II, analysis of pitch in the coda.}
\end{ex}

The complementary pentatonic pitch collections on E\textsubscript{b} and A\textsubscript{b} are restored, finally resolving to their centre of symmetry and the tonic, C. As we saw in Ex.82, the 'swapping' of parts in the final cadence causes a further mixing of the modes. Although C is the tonic of
this movement, the resolution onto C in this cadence is surprising, aurally. For most of the
time, Bartók explores areas of tonal tension, such as the bimodality between $E^b$ and $A^b$ in
theme 1. When the tonic is sounded, it is usually only briefly and with pitch simultaneities
obscured by dissonances, as in Exs. 80, 85 and 86. We can get a better idea of the tonal
character by making a synopsis of the main melodic, harmonic and tonal progressions in this
movement:

Ex. 89: PS, II, summary of melodic, harmonic and tonal progressions.
What impresses the ear more is the static, frozen nature of the harmony in bb.1-6 and elsewhere. The opening chord is the one we expect to hear at the end, and consequently, the final cadence is unsettling. Bartók emphasises this by the crescendo marking and the stressed-staccato articulation of the final chord. It is in keeping with the depressed, frustrated character of this piece that the resolution of tension almost sounds out of place.

Despite the lack of direct reference to folk music, this movement employs several modal resources in similar ways to those seen in the outer two movements. Melody is influenced by pentatonicism and modality, and bimodal textures are produced. Harmony often relates closely to melody but there is a tendency towards the avoidance of pitch doublings and the setting up of complementary chromatic textures. The prominence of the M.2 in melody and harmony influences the tonality, the basic scheme being E-D-E which is the same as in movements 1 and 2. The mixing of modal segments in the melodic lines in this movement is a characteristic device of Bartók's, but is not used in the other movements. What Bartók calls his 'new chromaticism' is, likewise, exemplified in the second movement.

Staticism of harmony and its folk origins was mentioned with regard to the first and third movements. Here, it becomes one of the predominant features of the music. No matter how abstract or unconventional the harmonies may seem, they are grounded within a tonal framework that stubbornly refuses to hurry. Thus, even in an abstract movement without a trace of direct folk influence, atonality is avoided. As we have seen, this is attributable to the folk basis in Bartók's music, working at the indirect level.

There are no unifying leitmotifs or quasi-folk tunes which occur in all three movements of PS. The coherence of the pitch content depends on the prominence of the M.2 (as well as other characteristic intervals from folk modality), in melody, harmony and tonality. The derivation of this interval from the pentatonic scale (and related modes) is evident in each movement. Therefore, we can conclude that folk modality is of fundamental importance in the generation of pitch in PS. The techniques of pitch organisation which the three movements share contribute towards making the work a satisfying whole.
CHAPTER 6

ORGANISATION OF PITCH-CONTENT IN CONTRASTS:
MOVEMENT ONE.

In his book, Bartók, Paul Griffiths has this to say about Contrasts:1

No doubt because of its origins as a lighter work, Contrasts is relatively straightforward in form and tonality. Each of the movements is ternary and has structural events happening quite slowly, and although the tritone is prominently used throughout for its gipsy zest, the harmony is fundamentally unruffled.

While Contrasts may have been designed as a somewhat more accessible piece, to describe the form and tonality as "relatively straightforward" is a superficial judgement showing that the author is perhaps too keen to place it in a convenient category as a light entertainment piece. This is probably due to the emphasis given by musicologists to Bartók's string quartets which are certainly longer and more complex than the trio, Contrasts. As we shall see, there are subtleties in form, especially in movements 1 and 2, and the ingenuities of tonal scheme are overlooked by Griffiths.2 His attributing of the tritone to gipsy performance is also dubious, considering the characteristics of the verbunkos which we saw in Chapter 3. Its significance is more far reaching than he indicates and has links in folk music. The harmony is characteristically complex in its mixture of triadic and non-triadic elements. The use of traditional triads (in unconventional contexts) does not indicate Bartók was pandering to the desires of audiences or commissioners; rather, he felt free in this later stage of life to incorporate a wide range of harmonic resources into his style. We can see this in more 'major' works of this time, the Violin Concerto(1937-38) and String Quartet No.6. Alongside this, the indirect folk elements remain of significant importance in the

1 Paul Griffiths, Bartók, p.162.
2 Ibid., p.162, for Griffith's description of the tonal scheme in Contrasts.
generation of pitch-content, complementing the direct elements which we saw in Chapters 1 to 3.

As was mentioned in Chapter 3, the opening of the first movement of *Contrasts* is reminiscent of the opening of Ravel's "Blues" movement from the *Violin Sonata.* Despite the allusion, there is no jazz influence in this movement; this is reserved for the finale. It is, rather, the style of the *verbunkos* that is alluded to, predominantly through the figurations and rhythm (and swaggering tempo). In terms of pitch content, theme 1 is characteristic of Bartók's mature style, with the melody developing from folk modes:

Ex.1: *Contrasts*, I, theme 1, reduction, bb.1-15.

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3 See ch.3, pp.220-1, Ex.11.
It is, to quote Somfai, "remarkable" how this melody covers eleven pitches of the chromatic scale while traversing a bimodal mixture of A lydian (which becomes the 'acoustic' form of the heptatonia secunda) and A phrygian, in a naturally unfolding contour. This is only an overview of the theme, however. Up to b.7, the bimodality is between A lydian and mixolydian, producing a characteristic dual fourth degree in b.6 (D#-D♭, violin). The phrygian element enters in the second half of the theme, in b.8, initiating the harmonic shift to B♭ (the second degree of A phrygian). At the join between the two halves of the theme, the clarinet covers a segment of the 1:2 model as the melodic line pushes up to the high point on the phrygian B♭. This progression is then echoed a P.5 lower in the following bar:

Ex.2: Contrasts, I, clarinet, bb.7-10.

The E♭ in the clarinet line can in no way be considered as the same as the lydian D# earlier in the melody. It belongs to a different modal segment and anticipates the violin’s modulation to E♭ in bb.10-11. Bartók takes advantage of the ambiguity between D# and E♭, here and in the coda of this movement (see bb.85-93). The prominent E♭ major triad in b.10 relates back to the D# major triad which the piano began on in b.1, as well as the lydian D# of the clarinet’s melody. In b.10, a new bimodal relationship is set up between A phrygian in the melody and a partial E♭ mixolydian in the violin. Although the theme cadences strongly onto the tonic A, Bartók carries over the previous bimodal relationships into the second entry of the melody in b.17. The codetta in bb.11-17 is based on the interaction between elements of A and E♭ modality, which are brought together in the clarinet’s swirling gestures:

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5 Somfai, 'Notes' to Bartók Béla Chamber Music 5, p.10.
The violin's C major triads in bb.12, 13 and 15 combines with the A₄ in the bass to form a characteristic pentatonic seventh chord. The C triads also anticipate the violin's melodic entry on C in b.17.

Theme 1 is quite different in nature to the themes from PS. It is more lyrical and conventional in its harmonisation, but also more complicated in its use of modal collections. A common technical ploy, however, is the progression from a purely modal opening (bb.2-5 in Contrasts, I) to complex bimodal combinations (bb.10-15ff). This is a trend we observed in several places in PS.

It is possible to find the seeds for the entire movement in this first theme. Bartók isolates fragments from this theme and pervades the textures with these fragments as part of the variational process. In the second statement of theme 1 which follows immediately, the variational process is already at work:

Ex:4: Contrasts, I, violin, bb.17-20.

It is notable that the varied melodic shape outlines the characteristic major/minor chords which Lendvai describes as 'gamma' chords (under the general term, 'alpha' chords). It is

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6 See 'Review of Literature', pp.44-5. This melodic shape is strikingly similar to the motif in the first movement of VSI.
later developed in inverted canon with the parts doubled in M.9s, in bb. 65-68. Other elements of theme 1 are isolated and developed at length. The continuation of Ex.4, for instance, contains two elements, the first outlining a m.3, and the second outlining a p.4:

Ex.5: *Contrasts*, I, violin and piano, bb.20-8.

Element *a* derives from b.6 where it appears with different time values, and element *b* from b.10 where it appears inverted. Having extended these elements, Bartók further varies the first of them at the *a tempo*, above. This new form is, in turn, varied in the piano part in bb.26-7 and even carries over into the clarinet part, in the second section beginning at b.30.

Although the theme in the second section provides a contrast in character to theme 1, there are melodic links between the two. The former is based on the outline of a m.3 which relates to element *a* in Ex.5 and other ideas from theme 1:

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7 Bartók explores various forms of this triadic motive more rigorously in the movement entitled "Marcia" from *String Quartet No.6*, written soon after *Contrasts*. 
The progression of a semitone between $C^\sharp$ and $B^\natural$ also relates to similar semitonal progressions in the first section - the forceful clarinet idea in bb.26-7, for instance. Right from the beginning of the movement we can observe the process of thematic manipulation that confirms Bartók's expressed desire for constant variation in his music.

As we saw earlier, the heptatonia secunda in its 'acoustic' form is present in the opening part of the melody in theme 1. The tritone and whole-tone segments that feature in this pitch collection filter through into the rest of the movement. They are to be found in the gesture in bb.1-2 that introduces the theme, and in many melodic and harmonic progressions that follow it:

Ex.7: Contrasts, I, melodic and harmonic progressions outlining a tritone or traversing whole-tone collections.
Bartók's use of the tritone is a little reminiscent of its presence in the second movement of VS1, where it is a sort of harmonic motif. As we shall see, the tritone permeates the other movements of this work as well.

Less obvious than the wholetonal and tritonal progressions are semitonal ones which, nonetheless, have a significant role. The initial gesture on the violin in bb.1-2 fills in a chromatic segment from B# to F before progressing in wholetones up to C# (see Ex.1). It is possible to interpret this progression as a bimodal combination of A ('major') and E ('major'), with the third of A major chromatically encircled by B#. In combination with the piano, this opening idea covers all twelve pitches of the chromatic scale. The modal chromaticism of the melody that follows emphasizes the lydian fourth (D#) and the phrygian second (B), as we saw. Both these pitches are approached by the semitone adjacent to them, forming the progressions E-D# and A-B. In b.11, there is a further chromatic

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8 See ch.7, pp.528-9.
progression up to and away from the third degree, C# (echoing the violin's opening B#-C# progression in b.1). Modal chromaticism in the melody is matched by chromaticism in the harmony accompanying, with sliding semitonal progressions:

Ex.8: *Contrasts*, I, chromatic progressions in theme 1, bb.5-12.

As Bartók elaborates more and more on his material in the first section, the melodic lines becomes more and more chromatic. The sequential violin line in bb.23-6, for instance, contains a modal motive from theme 1 which is manipulated to cover chromatic segments. The piano takes over the idea in bb.26-7, with a more chromatic melodic line (see Ex.5).

Chromatic voiceleading such as in Ex.8 is prominent in the harmony of this movement. For example, there is the sequence in bb. 23-5, or the link between sections in bb. 28-30 where the bass moves chromatically from B to G#, or the arpeggiated chords on the piano in bb. 81-5. Sometimes the chromatic progressions seem to derive from nineteenth century harmonic procedures rather than Bartók's manipulation of modal resources:
While some of the chords in the above are distinctively twentieth century in character, the progression labelled \( V^7-Ic-VII^7 \) is older in origin. The bimodal melodic lines above these chords prevent the passage from sounding too banal. As we saw in Chapter 3, such passages could be a reference to the *verbunkos* as played by urban gipsy bands. Similar examples of this type of chromaticism can be found in contemporaneous works of Bartók, such the *Violin Concerto 1937-38*, in which theme 1 of the first movement also refers to the *verbunkos* idiom:

One of the episodes from the finale of *Divertimento* features this type of chromaticism to a greater extent, where Bartók's intention is almost certainly ironic (see ch.3, Ex.3)\(^9\) As is the case in both the aforementioned works, the first movement of *Contrasts* features a cadenza, in which chromatic progressions are prominent (see b.88).

The semitone also assumes significance at the tonal level. While the two outer sections are based on A, the middle section (bb.30-57) is based partly on G\# (eventually progressing to E), although the tonality is unstable. Kárpáti presents a case for a semitonal relationship between movements of this work, as well.\(^{10}\) Following the first movement in A\(^b\), the second is in B\(^h\) but with a strong sense of A\(^h\) as well. The finale also has tonal ambiguities, beginning in A\(^h\) and eventually settling into B\(^b\). The final chord of the work is a conglomerate of all three tonal areas, A\(^h\), B\(^h\) and B\(^b\), with B\(^b\) being the overall tonic. Therefore, the tonal scheme may be viewed as follows:

Diagram 1:

\[
\begin{array}{ccc}
I & II & III \\
A^h & B^h & B^b \\
A^h & A^h + B^h & A+B+B^b \\
\end{array}
\]

It is particularly notable how the harmonic progressions in bb.2-12 (see Ex.1) partly reflects the tonal scheme of *Contrasts* as outlined in Diagram 1, with modulation from A\(^h\) to B\(^b\), through B\(^h\) and back to A\(^h\). This opening seems to provide a microcosm of the main tonalities for the whole work. The tonality of movements 2 and 3 is discussed in more detail later on in the chapter.

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\(^9\) See László Somfai ""Per finire": Some Aspects of Bartók's Cyclic Form", *Studia Musicologica* v.11, 1969, pp.402, n.43.

\(^{10}\) János Kárpáti *Bartók kamarazenéje* [Bartók's Chamber Music], op. cit. p.332. Using Lendvai's terminology, Somfai states that the tonal areas A\(^h\), B\(^h\) and B\(^b\) represent the dominant, subdominant and tonic, respectively. László Somfai, 'Notes' to *Bartók Béla Chamber Music 5*. By my reckoning (based on Lendvai), the above tonal areas should actually represent subdominant, dominant and tonic, respectively!
At this point, mention should be made of János Kárpáti's theory about the pitch structure in *Contrasts*.\(^\text{11}\) As we saw earlier, Bartók makes a feature of the 'modal' semitones, D\#-E and B♭-A, in the context of A modality, in theme 1. Another semitone, between C♮ and C♯, appears in the melodic line in b.11 (clarinet), producing a dual third degree in A. Kárpáti makes an analogy between the dual third degree and what he considers the dual fifth degree (D\#-E). Using the passage in Ex.4 of this chapter, he points to the similar function of the raised fourth degree (F♯) and major third (C♯), concluding:\(^\text{12}\)

So the motif of the Lydian fourth actually becomes equivalent to the dual third-structure of sound; what links the two variant forms is that an 'alien', or let us say alternating, note, the mistuned, slipped variant of one of the notes of the triad heard already, appears in both at the rhythmic centre of gravity. From all this we can venture to state that the fifth as well as the third can assume such an alternative role.

This view is an elaboration of Kárpáti's concept of 'mistuning' which was discussed in the 'Review of Literature'.\(^\text{13}\) At the beginning of the recapitulation (bb.57-84), the opening fragment of the melody from theme 1 is manipulated to further show this relationship between dual thirds and fifths:


\(^{13}\) See pp.52-3.
Ex. 11: *Contrasts*, I, bb.57-8, pitch analysis using Kárpáti’s method of ‘dual’ degrees.

Kárpáti describes the relationship in the pitch-diagram shown under the musical extract in Ex.11. Just as dual third degrees can exist within a stable fifth (C♭-C# within A-E), dual fifths and roots can also exist around a stable third (A♭-E♭ or A♭-E♭ around C). An endless complex of dual thirds and fifths plus roots is theoretically possible, as shown in the following example plus diagram. Bartók incorporates a larger segment of this complex in bb. 65-8, where the opening fragment of theme 1 is extended and varied:

Ex.12: *Contrasts*, I, reduction, bb.65-8, pitch analysis using Kárpáti's method of 'dual' degrees.
Kárpáti claims this principle also appears in theme 2 from the middle section, giving another example that shows the presence of dual thirds, fifths and roots: \(^{14}\)

Ex.13: *Contrasts*, I, pitch analysis of theme 2, bb.30-3 using Kárpáti's method of 'dual' degrees.

(Kárpáti's example above omits the bottom pitches, G⁴-A#, in the piano's first chord in bb.30, 31 and 32.) This principle is also demonstrated in relation to themes from other movements in *Contrasts*. Kárpáti concludes: \(^{15}\)

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The chain of dual roots and fifths arranged around the dual thirds is not a compositional device used as an end in itself but a conceptual condensation of the musical processes which stands behind the whole work and permeates almost all its thematic and motivic elements.

Undoubtedly, some of the melodic and harmonic progressions in *Contrasts* can be accounted for by Kárpáti's principle as described above. At the tonal level, there is also a relationship between his complex of dual thirds, fifths and roots and the overall tonal scheme of the work (shown in Diagram 1), as he demonstrates in the following: 16

Diagram 4: tonal scheme in *Contrasts* in terms of Kárpáti's chain of 'dual' degrees.

However, the claim he makes in the quotation above is not supported by close study of the score. In bb.34-44 (containing variations on theme 2), for instance, it is free chromatic voice-leading of the type described on p.374 of this chapter that dictates the direction of the melody and triadic-based harmony rather than a chain of dual thirds, fifths and roots:

Ex.14: *Contrasts*, I, reduction, simplification, bb.34-41; pitch analysis using Kárpáti's method of 'dual' degrees.

Analysis with Kárpáti's pitch-chain is not satisfactory here, not only because of the other pitches present that do not belong to this chain and the different order in which the triads appear, but also because of the notation. Again, Gillies' observations on Bartók's notational practices can be applied here. 17 C♯B♮ and B♮-A♯ cannot be considered to be dual thirds in G♯ and G♮, respectively. In each case, two different degrees are used rather than two versions of the same degree. Likewise, Kárpáti's analysis of theme 2 in Ex.13 is problematical because the supposedly dual degrees, G♯-C♮, D♯-D♮ and B♮-B♭ are notated by Bartók as G♯-F♯, D♯-C♯ and B♮-A♯ (plus the omitted G♯/A♯ at the bottom of the chord). In the tonal context of Ex.13, F♯ is a leading-note to G♯, C♯ a leading-note to D♯, and so on, with the result that there is an hierarchy of pitches rather than a chain of dual degrees. The fundamental pitches overall in theme 2 are E♮ and B♭, the former remains unaltered chromatically except for the E♯s in the clarinet which are decorative notes (equivalent to the small-headed ornamental notes in Bartók's transcriptions), as we can see in the following scale:

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Ex.15: Contrasts, I, pitch content of theme 2.

\[ bb.30-32 \]

E is the primary fundamental tone and overall tonic, and B the secondary fundamental tone, although the theme begins on the tonality of G# (with D# the secondary fundamental tone). B\# loses its status with the appearance of B\# on the final beat of b.33. The low G\# in the violin part (in bb.30-2) appears because it is the lowest open string on the instrument and, therefore, F\# would be notationally nonsensical.\(^{18}\) Bartók also faces this small notational dilemma in the second movement of Divertimento where the second violins have the following double-stop:

Ex.16: Divertimento, II, violin 1, b.5.

G-naturals (not played on the open string) also appear in theme 2, in b.33. In this case, they do form a dual third with G#, above the tonic, E.

However, Kárpáti's more general concept of 'mistuning' is applicable to the harmonisation of the second theme. The root and fifth of the triad, G# and D#, are 'mistuned' by the pitches F# and C#. There is also a non-triadic element, the A# and its 'mistuned' pitch G# at the bottom of the chord. However, this dyad is so low in the piano register that it does not obscure the tonal basis of the triad. (Perhaps this is why Kárpáti ignores it in his example.):

\(^{18}\) A low F# is impossible to play on the violin unless the G-string is tuned down.
A similar explanation to 'mistuning' is offered by Schoffmann's 'expanded unisons', where the semitonal combinations function in the same way as ordinary unisons.\footnote{See Schoffman, Nachum "Expanded Unisons in Bartók", \textit{The Journal of Musicological Research} no.4, 1982, pp. 21-37.} There is a difference between the 'mistuned' dyads in bb. 30-32 (\(G^\#\cdot A^\#, F^\#\cdot G^\#, C^\#\cdot D^\#\)) and the 'mistuned' or dual third degree of E in b.33 (\(G^\#\cdot L\cdot G^\#\)); while the former are 'mistuned' unisons that form semitonal clashes, the latter is a 'mistuned' or diminished octave and an integral part of a characteristic major/minor ('gamma') sonority.

In the continuation of the middle section (bb.45-57), application of Kárpáti's 'alternative structures' again fails to provide an adequate explanation of the harmonic processes, despite the multiplicity of traditional triadic formations present. Bb.55-7 contain the harmonic goal of this section, leading directly into the recapitulation:

Ex.18: \textit{Contrasts}, I, bb.55-7, pitch content.
The basic element in the passage above, is the interval of a m.3, occurring melodically in the violin and clarinet parts, and harmonically in the piano. In total, the pitch content consists of two sets of the pattern, m.3+m.2, or the 1:3 model, these sets separated by a M.2. Used in conjunction with characteristic 'dotted' rhythms, the m.3s betray roots in Hungarian folk music. This can be directly seen in the quasi-folk tune that begins the middle section (theme 2), where the m.3 is prominent in the modal melodic contour. Bartók isolates the interval and creates an artificial mode, the 1:3 model, based on the 'distance' principle. The mode appears simultaneously at two pitch levels in Ex.18, and therefore the passage can be described as bimodal.

Using Kárpáti's method, the above passage would be analysed as follows:

Ex.19: Analysis of bb.55-7 using Kárpáti's method of 'dual' degrees.

Comparing Ex.18 with Ex.19, we can see that the intervals A→G#, G→F#, F→E and D#→D remain the same, becoming dual thirds in the triadic context. However, Bartók's notational method would appear to disqualify such

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20 For discussion of the 1:3 model, see 'Review of Literature', p.44 and p.50
an interpretation. The chords, D#-F#-G-B♭ and F-G#-A-C, cannot be labelled triads on E♭ and F♭ with dual third degrees because Bartók emphasizes the significance of the m.3 by writing F# and G# instead of G♭ and A♭.

The notation also offers us a clue as to the overall tonality of such a passage. The pitch, A♯, is encircled by the lower and upper leading notes, G# and B♭ and, along with the dominant degree E, these two pitches are the only ones to appear chromatically unaltered (see Ex.18). Following the cadence in b.57 on B♭, the bass note of the register, the tonality of A is indeed restored for the beginning of the recapitulation.

The process that leads to the conglomeration of m.3s shown in Ex.18 begins at b.45, although the intervallic links go back further than this. First, the melody (doubled in triads in second inversion) outlines adjacent m.3s (F#-D#-C-A-F#) which harmonise with the main pitches in the piano part (D#-C). Although the triads do not move in a conventional manner, the basic chord implied in this passage is a diminished seventh - in Lendvai's 'axis' system, the tonic axis is outlined:

Ex.20: Contrasts, I, bb.45-8, pitch content.

Second, a complementary m.3, G-B♭, is added to this basic chord in b.49, lessening its 'diminished seventh' sound. The melodic line grows in range and length, with a sequence
outlining m.3s and dim.5s, before settling back into reiterated m.3s at b.53. From b.53 onward, C#-E is added to G-B, creating two, complementary, 'diminished seventh' chords:

Ex.21: Contrasts, I, bb.49-57, analysis.

The accumulation of m.3s is completed in bb.55-7, into a complete twelve-note complex. Although it is possible to organise the pitches into three, complementary 'diminished seventh' chords, as in Ex.21, Bartók's actual pitch arrangement is better represented by the 1:3 models, in Ex.18. The employment of diminished seventh chords is logical, not only because of the significance of the m.3, but also because of previous allusions to conventional, classical harmony, mentioned earlier.

From the above analyses, it is clear there is a danger in attempting to fit a concept such as Kárpáti's 'alternative structures' to entire movements or works of Bartók. While some passages demonstrate his ideas perfectly, there are many others that refuse to yield to them.
Thus far, discussion has centred chiefly around the first two sections of the first movement. In describing the arrival of the recapitulation, Somfai makes the following comment:

Subsequently [to the middle section, bb. 30-57] we hear the motif of the initial theme, loosened in tonality, fragmented and narrowed into imitations. Is it the start of the development section? Is it a pseudo-recapitulation? Eventually, it proves to be a recapitulation, but typically Bartókian in its complete transformation of meaning and form.

Despite its length and fullness of development, the middle section gives the impression of being a second subject in sonata form (in the context of a longer movement); this impression is enhanced by the developmental character of bb.57ff and the appearance of a seemingly new idea in bb.72ff. It is the references to the tonic key, in bb.57 and 72-9, and eventually the return of the opening in bb.85-93 that is recapitulatory in function, and gives a rounded sense to the overall form. This formal ambiguity prevents a sagging of momentum that sometimes occurs in more obvious recapitulations.

While the melodic and harmonic material in the recapitulation undergoes considerable variation and development, there are still many features that display links with folk modes. The following two extracts from the violin part show pentatonic turns in the melody:

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21 Somfai, László, 'Notes' to Bartók Béla Chamber Music 5, p.10.
Ex. 22: *Contrasts*, I, violin, extracts displaying pentatonic features.

In Ex. 22a, the P.4 comes from the motive directly preceding it in bb.65-7 which is a development of the end of theme 1. Bartók isolates this characteristic pentatonic interval and makes it the basis for a canonic dialogue between violin and clarinet. The pentatonic segments of the violin line are chromatically altered by the clarinet, thus combining folk modality with artificially derived modality:

Ex. 23: *Contrasts*, I, bb.67-71, pitch content.
Although neither part covers a complete mode, a polymodal chromatic mixture results from the canons. Pitch simultaneities between violin and clarinet show a conspicuous absence of the p.4 and an emphasis on intervals from the wholetone scale (M.2, M.3, aug.4, m.6). This is encapsulated in the cadence in b.71 (above), which can be 'simplified' into three M.3 dyads, separated by a P.4. This 'simplified' version misses the point of Bartók's notation, where G♯ and B♭ encircle the tonic, A♮ (sounded in the next bar). The pitch simultaneities in bb.68-71 are consistent with the mainly wholetonal harmonies of passages preceding this one, such as the doubled, inverted canon in bb.65-7 and the cluster-chord gesture in b.64:

Ex.24: *Contrasts*, I, pitch simultaneities in bb.64, 65-66.

The M.2 is important here, not only as a pitch simultaneity but also as the interval separating the consecutive, descending statements of the motif. This interval is isolated as
an harmonic element in the piano part in bb.58-64 and can even be traced back to the end of the middle section, where the 1:3 models outlined by violin and clarinet, and piano were a M.2 apart (see Ex.18).

The two entries of theme 1 (from bb.3 and 17) are squashed together in close imitation, in bb.57-8, and a third entry is added by the piano which outlines the main pitches of the other entries a semitone lower. The chord outlined by the violin and clarinet tremolos in bb.59-60 not only derive from the melodic entries but also relate to the chords from the end of the middle section, in bb.55-7:

Ex.25: Contrasts, I, reduction, bb.57-60, and harmonic relationship with bb.55-6.

In imitation with the violin and clarinet, the piano has a sort of chromatic version of the tremolo—chord, the M.3s and m.3s becoming M.2s. With all the parts combined, two complementary modal chords are produced, G#-A#-D#-F#, and A-B-C-E (although these are blurred by the unmeasured tremolos). Therefore, the tonic key A is present but very much hidden by the bimodal chromatic texture. The tonal instability is heightened by the

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22 A similar technique is used in the recapitulation of PS,I, where the three melodic entries from theme 1 are concertinered into a stretto, in bb.186-7.
abrupt gesture in b.60, with the outline of the tritone, F-B, relating to the tritones in the melodic entries in bb. 57-8.

The sequential phrase that follows in bb.61-4 is a good example of Bartók's tendency constantly to vary his material. A summary of the alterations follows the extract:

Ex.26: *Contrasts*, I, reduction, bb.61-4.

1. The violin precedes the clarinet with its entry, and the clarinet motif is varied in b.62 (perhaps anticipating the new form of the motif in bb.65-8).

2. The three entries of the motif occur at the distance of one crotchet beat instead of a minim, shortening the whole passage by two beats.

3. The clarinet and violin lead-into the *tremolo*—chord is changed slightly, and the *tremolo*—chord is inverted.

4. The *tremolo*—chord in the piano is expanded from a semitonal collection (F#-G plus G#-A# plus A-B) to one based on the 1:2 model (C#-D# plus A#-B#-E-F#). This change and the one in no.3 create a new, wholetonal cluster-chord, complementary to the one in the 'abrupt' gesture, in b.64.

5. The 'abrupt' gesture from b.60 is expanded harmonically in b.64 into a wholetonal cluster, with the violin *glissando* replacing the 'snap' *pizzicato*.

6. The passage is a P.4 above its antecedent except for the final 'abrupt' gesture.

As we have seen earlier, variation in Bartók's music has a strong link with folk music practices. The extent to which he varies the material in this passage and in the bars following is also suggestive of a development section from a sonata movement. Organisation of pitch content is mainly reliant upon the manipulation of intervals or scale segments, abstracted from melodic ideas. These procedures create a nebulous tonality which is only more firmly established in bb.72ff. Behind the melodic and harmonic intricacies
there is a folk music basis discernible but it is completely absorbed into the composer's personal style.

Following the melodic and harmonic complexities of bb.57-71, the relative simplicity of the section from bb.72-84 provides a contrast, and point of relaxation in the movement, melodically and tonally. The violin and clarinet melody surprises us in that it appears to be new. Its baldly pentatonic and modal lines have no precedent in previous sections, although it is possible to find a distant relationship between the contour of this melody and theme 1 (in its original form). There are also echoes of bb.68-71 in the use of P.4s and pentatonic scale segments:

Ex.27: Contrasts, I, relationship between melody (violin and clarinet) in bb.71-9 and melody in theme 1 (clarinet).

The melody in bb.72-9ff is not truly 'tuneful' in the way the opening melody of the movement is. It is only the skeleton or memory of a tune. Possibly Bartók's wide experience of bringing folk tune variants together influenced the association of this melody and theme 1; or perhaps he was influenced by his own method in folk transcriptions of the 1930s of providing a simple melodic skeleton underneath richly ornamented items, so as to
highlight the basic tune. Ex.28 shows an example of the latter, the transcription dating from just prior to the writing of Contrasts:23

Ex.28: Bartók's full transcription plus melodic skeleton of an Hungarian folk song; 'Patria' series, transcription no.18a/e.

While theme 1 is instrumental in style, the 'new' melody above has a bare, modal simplicity that suggests a vocal style (although the various octave doublings and displacements are

23 See Hungarian Folk Music. Gramophone Records with Bartók's Transcriptions, ed.Somfai. Somfai comments upon the use of melodic skeletons on p.20 of his 'notes' accompanying this volume of records. For further examples of melodic skeletons, see transcription nos.5-9, 11, 16.
instrumental). The possible association between the two is emphasized by the accompaniment to the 'new' melody, which is directly derived from the motif from theme 1 and connects this section with the one previous (bb.57-71).

On first listening, the melody in bb.71-84 is likely to sound 'new' and, therefore, distract our attention from the recapitulatory function of this section. There are precedents for this type of occurrence in the music of earlier composers, whose works Bartók was undoubtedly acquainted with. Beethoven's use of a 'new' theme in the development and coda of the *Eroica Symphony* and the appearance of a 'new' theme in Brahms' *Third Symphony*, II, bb.108-15, are but two examples of this type of psychological distraction by irrelevance. The purpose of the new theme is to prevent an inevitability in the sequence of musical events setting in. When thoroughly familiar with the work, however, we will probably interpret the melody (with its accompaniment) as being a memory of or variation on earlier themes. The comprehensive alteration of material in bb.57-71 creates a similar impression of 'memory', even if it does not sound new. This supports Somfai's point about the transformation of meaning and form in this section (p.387). Bartók completely varies the recapitulations in other mature works, such as *String Quartet No.3* or *Sonata for Two Pianos and Percussion*; in the latter, three versions of the theme 1 appear in the recapitulation, each one becoming progressively less similar to the original:
Despite the lack of any strict return of the theme, the movement is successfully (and more interestingly) rounded off by the multiplicity of variants.

Aside from its novelty, the melody in bb.72-84 re-establishes the tonic key in conjunction with its accompaniment (built from the head-motif of theme 1), with three of the five phrases beginning on A. From these points of reference, the piano builds long, motivic chains that rise in fourths and descend in irregular series of thirds. Pitch simultaneities on strong beats of the bar remain faithful to the tonality of A until bb.80-4, where a rather nebulous C tonality appears:
The rising of the motif in P.4s relates directly to the prominence of that interval in the preceding bars. As was mentioned above, the patterns of descending thirds in the piano's chains are irregular, as the comparison of four-note groupings shows (see above). Despite this characteristic variation of pitch material, the majority of note-groupings outline pentatonic collections, especially in bb.82-4 where a chromatic descent from A to E♭ occurs. In this way, the pentatonicism of the melodic line is projected onto the harmony.
The chromatic descent of the pentatonic note-groups also relates to other chromatic progressions in the movement, which were commented upon earlier. By filling in the tritone from A♭ to E♭ (in the top part of the note-groups), the progression also connects with the melodic and harmonic use of the same interval in bb.85ff (where centres of A♭ and E♭ are combined).

With the cadenza to follow, the return of theme 1 is abbreviated to just four bars (and is concluded after the cadenza). Whereas in the first section the bimodality between A♭ and E♭ evolved gradually, it is immediately re-established here, with A♭ being a true lydian (with G# in b.86) and E♭ being basically mixolydian. Both D# on the clarinet and B♭ on the violin act as pedal-notes, D# being both the characteristic degree of the lydian mode and, enharmonically, the root of E♭:

Ex.31: *Contrasts*, I, reduction, bb.85-8.

Following the cadenza, the melodic D# remains to the end, no longer requiring resolution, while the triadic harmony on D# (formerly E♭) returns by wholetones to the tonic, A. The introductory bars of the movement are extended to form this tail-piece, acting as a strong framing device.
The '6/4' A major triad at the beginning of b.85 not only re-establishes the tonic key but also provides a traditional preparation for the cadenza.\(^24\) Taking the held D# as a reference point, the clarinet cadenza grows through the development of interval patterns which culminate in the high F# lydian scale (in the main version of the cadenza, at least).\(^25\)

The quasi-improvisational melodic line uses various figurations from earlier in the movement, such as the swirling gestures in bb.15-22 and the quintuplet patterns in bb.22-5:

Ex.32: *Contrasts*, I, clarinet cadenza (b.88), analysis.

\(^24\) Many classical and romantic concertos contain cadenzas for the soloist which are conventionally preceded by '6/4' chords; Beethoven's *Piano Concerto No.3* in C minor, I, contains an example.

\(^25\) There are two variations provided by Bartók for this cadenza, which use the same type of melodic ideas but without quite the same technical difficulty. They also further show Bartók's concern for variation, especially appropriate in a quasi-improvised passage. In the 1940 recording (with Bartók at the piano) Goodman plays the main version.
The opening downward figure outlines a m.7 from D# to E# which is answered by upward figures, the span increasing from a fifth to a m.7 (D#-D♭, more properly described as a doubly-diminished octave). At its broadest, the swirling pattern outlines an A major triad in second inversion (with D♭ instead of C#) relating back to the explicit statement of this triad in b.85, on the piano. At the climax of the cadenza, a perfect octave is reached with the F# lydian scale.26 As we saw in bb.22-5, the quintuplet figures span a tritone and the pattern of tones and semitones is constantly varied, heightening the improvisational effect. The pattern of pitches in the descending staccato figure is also varied, with the final four notes, F-D-C♯-D♭ referring back to the opening patterns. A certain direction to the melodic line is given by the first notes of each group. For instance, the first three quintuplets begin on D#, F# and A, respectively, and , before returning to D#. In this way, the cadenza is anchored in the bimodal, A/D# tonal area. While not having any direct links with folk music styles, this cadenza exemplifies Bartók’s fine appreciation of aspects of improvisational performance which he had considerable knowledge of from his folk music research.

This movement does not lend itself to the sort of analysis where every note can be explained in terms of a few basic techniques or a system. The nature of the quasi-verbunkos material is improvisational and consequently, the organisation of pitch is not as strict as in works from earlier in the 1930s (such as String Quartet No.5). This is especially true of the first and second sections, where the thematic material is varied and developed in a free manner and with a wide harmonic palate. As in PS, different ideas and passages are held

26 Both variations to the cadenza omit this F# lydian run.
together by common intervals that gain prominence in the texture. The tritone is most important in this respect. It initially occurs as the distance between the tonic and raised fourth of the lydian mode (and then the 'acoustic' scale), in the opening melody. Bartók then projects this characteristic Rumanian/Slovakian folk-interval onto the harmony, and it also occurs as the interval of bimodality at the start and end of the movement (between A and E\(^\flat\)). The use of bimodal chromaticism is less obvious here than in PS, the first theme being a good example of this.

In contrast with the freedom of the opening section, the recapitulation is highly concentrated. The thematic material is transformed completely, showing Bartók's skill of variation and concern for avoiding straight repetition of ideas. The extent of variation in the whole movement gives rise to a multitude of scalar patterns and chordal structures which are impossible to reduce to a simple formula. Kárpáti's attempt to find a system of pitch generation in this movement (and the whole work) places too great a restriction on the music. However, his ideas do emphasise a particular harmonic resource which was growing in importance at this time, namely the diatonic triad. This will be discussed further in the relation to the third movement.
CONTRASTS: MOVEMENT TWO

In the 1930s, symmetry became an increasingly important concept in Bartók's music; symmetry of form, symmetry of counterpoint, and symmetry of harmony. *String Quartet No.5*, for instance, has a palindromic form and contains many examples of mirror counterpoint, and even passages where the whole texture is inverted. As the analysis of *PS* showed, and as can be seen in other works, Bartók was interested in symmetry in the 1920s, also.\(^\text{27}\) In several places, it is possible to find an axis of symmetry around which the pitch content of chords or melodies are arranged. Antokoletz claims that symmetrical formations are an important basis for most of Bartók's music and that they derive from his manipulation of the folk modes into interval cycles.\(^\text{28}\) Many of Antokoletz's examples are very much below the surface of the music, however, and it seems doubtful that Bartók consciously organised his pitch content in such a way.\(^\text{29}\) While it is possible to find examples of symmetrical writing in works from most periods of Bartók's career, it becomes more prevalent in the 1930s.

Simple examples of symmetrical writing on a small scale can be found in the series for piano, *Mikrokosmos* (1926-39). The device is used in No.141, entitled "Subject and Reflection", where a folklike, five-note melody appears simultaneously with its mirror inversion, the overall scale being a form of the *heptatonia secunda*:

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\(^{27}\) See, for instance, *Nine Little Piano Pieces* (1926), *String Quartet No.4* (1928) and *VSI* (as we shall see in the next chapter).


\(^{29}\) See 'Review of Literature', pp.57-62, for further discussion of Antokoletz's ideas on symmetrical pitch organisation.
In this piece, the centre of symmetry is also the tonal centre, which shifts from $B_b$ to $B^\sharp$, and then to $D$, $E_b$, $F^\#$, $G$ and back to $B_b$ (the keys outlining a 1:3 model). While this example uses quasi-folk pitch material, symmetrical writing is more often than not used in conjunction with abstract pitch material. In no.144 from Mikrokosmos, symmetrical pitch formations appear in an abstract, chromatic texture:

Ex.34: Mikrokosmos no.144, "Minor Sevenths, Major Seconds", bb.1-2, 18-21, pitch content.
Although Lendvai logically associates symmetrical pitch formations in Bartók's music with atonality, the composer is careful to indicate tonal centres through the notation, even in completely chromatic textures such as the one above. In Ex. 34(b), A♭ and D♭, two axes of symmetry, usually remain chromatically unaltered and are encircled by other pitches; in bb.1-2, for instance, Bartók writes G# and G♭ rather than A♭ and G♭ and, likewise, in bb.8-9, C# and E♭ encircle D♭.

Symmetrical pitch formations are significant in the second movement of *Contrasts*. When discussing these, however, we must be careful to distinguish between the manipulation of folk modes and the manipulation of abstract modes or pitch collections. It is noteworthy that the passage containing a purely pentatonic melodic line is subject to the most spectacular symmetrical setting. Perhaps Bartók wishes to highlight this particularly folk-like melodic moment with a special technical device:

Ex.35: *Contrasts*, II, reduction, bb.46-8, pitch content.

The pentatonic line, doubled in M.3s, is reflected in the bottom part (also in M.3s) around the axes G♭/G♯ D♭/C♯, encompassing all twelve pitches of the chromatic scale. The only degrees of this scale to appear in one form are E♭ and B♭, which are encircled by D♭-F♭ and A♭-C♭, respectively. Using Gillies' theory of tonality and modality, E♭ and B♭ are established as fundamental tones, with the former being the tonic due to its placement at the bottom of the

texture. Accompanying the piano's mirror counterpoint is a tritone, D# (clarinet) to A♭ (violin), a reminder of the tonal context that is established prior to this passage. As we shall see, the tritone has an important role in this movement, carrying over from the first movement.

As was mentioned in Chapter 1, this melody is a basic idea from which earlier thematic material derives. The opening section of the movement (bb.1-18) consists of a related theme with a four-part structure reminiscent of Hungarian folk song, and also pentatonic and modal turns of phrase. Melody and inversion are also combined here, but the inversion is not strict as was the case in Ex.35. However, true symmetrical properties do occur in bb.11-18, the second half of the theme:

Ex.36: Contrasts, II, reduction, analysis of the first section, bb.1-18.
In bb.11-18, 'lines' 3 and 4 of the quasi-folk tune consist of a three-limbed sequence. In each limb, the clarinet and violin parts reflect each other, the pitch material being organised around a shifting axis of symmetry. The only time the axis is stated (and octaves or unisons occur) is in the second limb, in b.14, with the progression E♭-A♯. Bartók emphasizes this point with a crescendo marking. The significance of this axis can be seen in relation to the same tritone, spelt A-D#, that is so prominent in the first movement, remaining unresolved at the end. It also returns at the end of the second movement, as we saw above, and carries over into the beginning of the finale. Therefore, its significance in Ex.36 is not simply local.

Although the pitch content in bb.1-10 is not symmetrical, there are elements of symmetry suggested, especially in 'line' 2 (bb.6-10). Bartók's reason for employing strict mirror inversion in bb.11-18 only is based on musical considerations. Whereas the theme in bb.1-10 is clearly based on diatonic modes, the symmetry in the bars following creates an nebulous, chromatic harmonic progression, thus building tension towards the climax. This relates to a characteristic in Bartók's harmonic language, the progression from modality to bimodality and modal chromaticism, which we observed in chapter 5, and the first part of the present chapter.

The symmetry in bb.11-18 is disturbed by one pitch, the B♭ in the clarinet part in b.15 (beat one). From this, we can draw two conclusions: either it is an example of Bartók varying his material, and giving preference to a particular harmonic effect over the perfection of a system; or it is a mistake in transposition of the clarinet part (in A). A true mirror inversion is achieved by a written F♯ (sounding as D) instead of a written D (sounding as B♭). Perhaps Bartók intended a D♭ to sound but forgot to transpose the part at this point. A written F♯ would not only restore the perfect mirror inversion, it would also remove the rather ordinary triadic progression (D-G-B♭-G), produce a canonic echo of the violin phrase two bars before, and would make each phrase of the clarinet in this section consistent by starting
with the step of a tone (see bb.1, 6, 11, 13). It is not inconceivable that Bartók could make an error of transposition; as we saw in Chapter 4, he made mistakes in the horn and clarinet parts of the Violin Concerto 1937-38. What makes this theory unlikely is that Bartók rehearsed and performed this work, himself, and would surely have spotted the mistake at this stage.

The 'sound-effects' in the piano part in this section are independent of the symmetry of the melodic lines. While there are intervallic links between the two, the piano's pitch content is deliberately complementary to that of the other instruments (see Ex.36). We might view the piano's gestures as imitations of natural sounds which contrast with the imitations of singing, in the clarinet and violin parts. A similar contrast occurs in "The Night's Music" from Out of Doors for piano (1926), where a quasi-folk tune appears in the midst of various sound-effects. Possible musical symbolism in this movement is discussed further on in this chapter.

The melody in Ex.35 is a sort of proto-type for each of the melodic lines in this first section. Similarities between these lines were shown in Chapter 1, and features of folk modality discussed. At a deeper level, certain patterns in the melody and harmony emerge in this theme, predominantly between violin and clarinet, although the piano part is somewhat related. The opening phrase is on B, this being the lower note of the P.5 between the clarinet and violin in bb.3-5, and also being encircled by A# and C. A bimodal mixture of B dorian and phrygian is employed in each part, with a dual seventh degree (A7/A#) present:

Ex.37: Contrasts, II, bb.1-5, pitch content.
Noteworthy in bb.1-3 is the 'swapping' of parts, with the clarinet changing from the dorian to phrygian modes and the violin, vica versa. The first three notes of each part is imitated at pitch. In the second phrase, the intervals of the melodic lines are narrowed and again cover bimodal segments. It is possible to view these segments as coming from the melodic minor scale on B, in both its ascending and descending forms:

Ex.38: *Contrasts*, II, bb.6-10, pitch content.

This type of bimodality between both forms of the melodic minor scale is something Bartók found in baroque music, from his early keyboard music studies. In the 'Harvard Lectures', Bartók refers to these two forms of the melodic scale as "modes of the minor scale", and their simultaneous use in baroque music as "a kind of bi-modality". There is further modal ambiguity caused by the E#, which implies a shift to the 'dominant' key, F#. With the 'swapping' of parts, the violin's modal segment becomes wholetonal (the E# becoming Fb), and the progression from the final two beats of b.7 to the first beat of b.8 is symmetrical (around G#/D). The final two chords of b.8 and the first chord of b.9 belong to a wholetone segment that is complementary to the one from the previous bars. This

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32 This symmetrical progression is prepared for in the equivalent part of the first phrase, from bb. 2-3.
progression creates the effect of a modulation, even though the tonal centres are not clearly defined. It also anticipates the strict symmetry of the following phrases, in bb.11-18.

From the above, we can follow the growth from the modal first bar into a bimodal phrase, based on the pentatonic melody in bb.46-8, and developing into a more chromatic bimodality in bb.6-7 that, in turn, gives way to abstract scales and symmetrical movement. This theme demonstrates well how melodic ideas that have a basis in folk music are subjected to a rich variety of manipulative techniques, without seeming contrived in any way. It also bears out Bartók's own statement about bimodality being used sometimes for very short passages ("...sometimes only in single bars").

While being essentially independent of the clarinet and violin in terms of gestures, the piano part contains subtle relationships of pitch with the other parts, as is shown in Ex.36. In the first phrase, for instance, the outline of a M.6 between $A_\#$ and F# in the melody is answered by a m.6, filled in by the piano line:

Ex.39: *Contrasts*, II, relationship between piano and clarinet/violin line in bb.1-5.

The piano's melodic segment, which could be viewed as either A aeolian or D dorian, forms a bimodal clash with the B-F# dyad, held above. On beat two of b.5, a pentatonic

\[ BBE, \text{p.370.} \]
simultaneity, D-A-B-F#, is sounded. It is possible to pile this chord up in thirds, forming a seventh chord, with B as the root (see above). This version of the chord occurs at the conclusion of the movement, with the third degree raised (being a tierce de Picadie):

Ex.40: Contrasts, II, reduction, final two bars.

Seventh chords such as the above are to be interpreted as 'consonant' sevenths, going by Bartók's own statements. Moreover, the pentatonic seventh-chord is a verticalization of the clarinet's opening four pitches, transposed (F#-E-C#-A becoming B-D-F-A). The same relationship exists between the opening four pitches of the violin melody and the cadence chord at the end of the second phrase (bb.9-10).

Kárpáti claims the key of A is significant in this movement, creating a tonal dichotomy with B which is encapsulated in the chords in Exs.39 and 40. We can also see this in the opening melodic phrase which starts on A and shifts to B, and at the end of the second phrase, where the piano drops from B onto A. The interval of a M.2 between these pitches appears at the beginning of each melodic phrase (of the 'main', upper part) in the first section. From b.35 onward, A appears as an upper pedal-note (on the open string of the violin) while B is eventually re-established as the overall tonic key.

34 See, for example, 'Review', p.43.
35 János Kárpáti Bartók kamarazenéje, pp.331-2.
In the second phrase, the piano begins with what seems to be an inversion of the line in Ex.39. However, the final progression falls a M.2 instead of rising, the phrase outlining a tritone complementary to the one held in the parts above:

Ex.41: *Contrasts*, II, reduction, bb.8-10, pitch content.

The piano's $A^b$ and $B^b$ in b.9 form a five-note wholetone chord, symmetrical around $A^b$. This follows logically from the symmetrical progression of the parts in bb.7-8, shown in Ex.38 (reiterated in the violin/clarinet grupetti, in b.9). Further intervallic relationships between the piano gestures and the clarinet and violin lines in bb.11-15 are shown in Ex.36.

The flickering piano grupetti contract in a logical manner, beginning with a m.6 (or augmented fifth) which comes from the piano's phrase in bb.3-5 (see Ex.36b). Once again, Bartók's fastidious variation of scalar patterns can be seen; the first grupetto is wholetonal, the second lydian, and the third uses the 1:2 model. The process of interval reduction is completed with the fall from G#-D# in b.18, a typical cadential progression in Hungarian folk music.

Compared with the cadence chords in bb.5 and 10, the one that ends the first section is nebulous in tonality, the final simultaneity being a three-note wholetone cluster. Bartók moves into the next section by simply allowing this cluster-chord to fall a semitone:
Symmetrical pitch organisation is maintained in the second section of this movement (bb.19-28). The mirror inversion between the violin and clarinet parts in bb.19-24 is imitative, rather than being rhythmically synchronised as was the case in the first section. Artificial scale-segments are employed; in the first phrase (bb.19-21), the melodies use 1:5 models while, in the second (bb.22-24), these are extended to 1:6 models:

Ex.43: (a) *Contrasts*, II, violin/clarinet lines, bb.19-24, pitch content.
(b) Relationship between violin line in bb.19-21 and bb.11-14.

As Ex.43b shows, the melodic lines have intervallic links with the first section, and are not arbitrarily based on artificial scale formations. It is the outline of a tritone that binds these melodic fragments, and in particular the one between $E_b$-$A_b$ stated in unison in b.14 at the climax of the theme.

As we saw in Chapter 1, we can make an analogy between the types of scale patterns used above and those in the piano piece, "From the Island of Bali", No.109 from Bartók's work, Mikrokosmos. The pitch in this piece is symmetrically organised, and the melodic lines are based mainly on the 1:5 model. As happens in the Contrasts (see Ex. 44), Bartók varies the intervallic constituents, with the P.4 narrowing to a M.3:

Ex.44: Mikrokosmos no.109, "From the Island of Bali"; (a) bb.12-15.

36 See ch.1, pp.126-7, Ex.60.
In *Contrasts*, the melodic lines are accompanied by material that is independent in symmetrical pitch-contruction but which is related, intervalically. In bb.19-21, an ostinato outlining D-C# lies below the B/F axis, and when the axis moves up a m.3 in bb.22-4, the ostinato does likewise. The reiterated semitones in the accompaniment unify it with the melodic progressions above, which alternate between semitones and fourths (either perfect or augmented). Regardless of the axes of symmetry between violin and clarinet, it is the piano's ostinato in the bass that determines the tonal centres:

Ex.45: (a) *Contrasts*, II, bb.19-25, pitch content.

(b) relationship between piano part in bb.19-25 and bb.3-5, 8-10.

The tonal centres outline the tonic 'axis' (B-D-F-G#), using Lendvai's system of tonality. It is not difficult to see the association between the ostinato patterns here, and the piano's gestures in the first section. As Ex.45b shows, there is even a relationship in terms of pitch.

The tonal centres outlined in Ex.45a (B,D,F) are stated as an harmonic entity at the climax in b.25, with the tritone again emphasized. This climax provides the *denouement* for
the previous two phrases, producing what Lendvai would term a 'Barform'.37 The 'Barform' consists of a sequence of events symbolised by the German words 'Stollen'-Abgesang' [literally strophe - strophe - aftersong, or refrain], where the two stollen lead the music onwards to the consummation of the Barform (the Abgesang); in simpler terms, the form is AAB.38 At the climax point, the artificial scale-patterns (1:5 and 1:6 models) give way to modal resources. The violin line is based on a mixture of G dorian and phrygian, with a strong pentatonic basis and forms a bimodal combination with the

The clarinet's cycle of thirds can be condensed into an incomplete B major scale, being based on the same tonic as the piano. Together, these pitch collections cover all twelve notes of the chromatic scale, providing another example of complete polymodal chromaticism:

Ex.46: *Contrasts*, II, reduction, bb.25-8, pitch content.

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37 Lendvai, *The Workshop of Bartók and Kodály*, pp.350-2. The 'barform' (a German word) is an ancient musical form from German musical culture. It is a reasonably common structural device in Bartók's music.

Characteristically for Bartók, the modality of each melodic line eventually becomes mixed (b.28). On the final beat of this bar, the clash between D# and D♭ creates a dual third degree above B. Despite the bimodal combination in the passage above, B is firmly re-established as the tonic by the piano (and clarinet).

At this point, it is appropriate to examine the structure of this movement since, despite 'Formal Analysis' provided in Appendix 2, the form is not unambiguous. In his analysis, Kárpáti rejects ternary form and opts instead for a theme and variation form, as follows:39

<table>
<thead>
<tr>
<th>THEME</th>
<th>bb.1-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARIATION 1</td>
<td>bb.19-28</td>
</tr>
<tr>
<td>VARIATION 2</td>
<td>bb.29-44</td>
</tr>
<tr>
<td>[CODA</td>
<td>bb.45-end]40</td>
</tr>
</tbody>
</table>

Melodic and harmonic connections between the first and second sections have been made. A more direct and elaborate parallel is provided below. It is notable that the pitch content in bb.19-24 partially corresponds to the cadences at the ends of phrases 1 and 2 of the opening section, but that there is no synchronisation, apart from the bass line:

40 This coda is not actually stated in Kárpáti's analysis but is presumably implied since the final seven bars could not be considered a further variation.
Ex. 47: *Contrasts*, II, relationship between the first and second sections.

Is there a sufficient correspondence between these two sections to suggest a 'theme and variations' relationship? A strong factor against Kárpáti's interpretation is of course, the 'Abgesang' or climax point in bb.25-8, which has no parallel in the opening section. Further
evidence against the 'theme and variations' form can be gleaned from a comparison with the slow movement from Bartók's Violin Concerto 1937-38, written directly prior to Contrasts. This movement is without question a 'theme and variations'. Although no such title is provided and the variations are not numbered, there are clear correspondences between the opening theme and the seven sections that follow, which are separated by tempo changes, double-barlines and indications of the duration. Somfai's in depth analysis of this movement shows that despite the enormous variational detail applied to most aspects of the music, it never threatens to break down the basic format to any significant extent.

The second section of the Contrasts movement, by comparison, could easily be considered a development section. For sure, Bartók varies material from the first section but this is simply characteristic of his compositional technique. Without a recognisable sequence of events from the opening theme, the second section cannot be a 'variation', in Bartók's meaning of the word, at least.

The view that the second section is a development in a ternary form rather than a variation is enhanced by the third section (bb.29-44) which is strongly recapitulatory in character. This is largely due to the texture; in both the first and third sections, there is antiphony between the clarinet/violin line and the piano's 'sound-effects'. There are also interrelationships between melodic material, although in the recapitulation the violin's reflecting countermelody is replaced by a harmonisation:

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42 A further (and rare) example of Bartók using theme and variation form occurs in Mikrokosmos, no.112, "Theme and Variations on a Folk Tune".
Although not thematically related, the three-limbed sequence in bb.33-4 corresponds to the third and fourth lines from the first section (bb.11-18), which also form a three-limbed sequence. The similarity in pitch content between the cadence in b.34 and the cadence in b.18 is also noteworthy.

From the above, we could view the third section as a variation on the first section. The third section does not end here, however, as the development of ideas continues in
bb.35-44. Therefore, the variation form is again invalidated because the overall sequence of events bears no relationship to those in the first section, which comprises the 'theme'. In bb.35-9, the clarinet line is derived from bb.11-12, imitated by the piano which recapitulates its descending line from bb.3-5. The bimodal relationship between the sustained G#-D# dyad (violin) and the B locrian scale (clarinet/piano) is initiated by the cadence in b.34, and outlines the tonic 'axis' (B-D-F-G#). G# is the overall tonal centre, being at the bottom of the texture. The A pedal-note (violin pizzicato) forms the 'consonant' modal seventh with the B in the clarinet and piano parts:

Ex.49: Contrasts, II, reduction, bb.34-40
Elements from the first half of the third section return in bb.40-4. The interval of the piano's "Eastern" gestures widen to form a 1:6 model (in symmetrical arrangement) while the cadential idea in the violin and clarinet parts can be viewed as a chromatic version of the sequence in bb.33-4. Although tonal resolution does not occur until the beginning of the coda, the tonic 'axis' is still maintained, in Lendvai's system:

Ex.50: *Contrasts*, II, reduction, bb.40-5.

\[\text{\includegraphics[width=\textwidth]{image}}\]

Kárpati is probably correct when he says that the third section "...cannot be considered a re-exposition since it has a very dynamic character..."\(^\text{43}\) The material is extremely varied in character and function for a recapitulation. However, this was also the case in the recapitulation of the first movement, and is true in several other Bartók works involving ternary or sonata form.\(^\text{44}\)

The coda begins with the resolution onto B major, with the 'consonant' modal seventh also present in the form of the reiterated pizzicato A on the violin. The carry-over of this upper pedal-note helps bring the coda and preceding section together. Moreover, the tritone D#-A reappears, now as the third and seventh of the B\(^7\) chord. As we saw earlier, D# was sustained along with A in bb.35-39, and this tritone also provided a link between

\[^{43}\text{Kárpati, op. cit., translation. In original text, p.331.}^{44}\text{The form in this movement is discussed further in ch.9, where another possible structure influenced by folk music is presented.}
the first and second sections. In the coda, D# is enharmonically changed to E♭ in the piano part and becomes the tonal centre in the symmetrical, pentatonic statement in bb.46-8 (see Ex.35). This brief excursion into the mediant major (relative to B) would be interpreted as a shift to the dominant 'axis' (F#-A-C-E♭) in Lendvai's tonal system. The final cadence (bb.49-51) recapitulates various other cadential progressions in this movement, with its modality being rooted in folk music:

Ex.51: Contrasts, II, reduction, bb.49-51.

As Ex.51 shows, variation of ideas is maintained through to the end; the clarinet's line is based on the 1:2 model, outlining a tritone and thus relating to several previous passages in the movement. It also forms a chromatically altered version of the modal progression above (in the piano). The open-ended nature of the final chord is appropriate in the context of the whole work as we shall see, and also is device Bartók uses in several other works. The end of "Giucoco delle Coppie" from Concerto for Orchestra employs the same seventh chord (D-F#-A-C).45 In Contrasts II, the final chord not only emphasizes the strong B-A relationship

45 See other types of harmonically open-ended final chords in Bartók's Music for Strings, Percussion and Celesta, III and Sonata for Two Pianos and Percussion, II.
but is also a typical product of Bartók's diatonicism, with pitches B-D#-F#-A being the main pillars of the 'acoustic' scale. It signifies a resolution of tension which carries over into the finale, pervaded with 'acoustic' effects.

Beyond the various techniques of pitch derivation, this movement is a musical manifestation of a philosophical theme which much concerned Bartók - the relationship of people to Nature. The stylised sounds of Nature are evident enough in the music, from the gusty tremolos in the third section to the low rumblings of the first section. There are also exotic sounds that conjure up far Eastern scenes, perhaps with a similar intention as in the piece "From the Island of Bali" which depicts a tropical scene. Within this context, the sounds of the human voice emerge, in the form a folk song (or at least quasi-folk song). Thus, the music is expressionistic as well as being impressionistic. It suggests the theme of 'Man and Nature' which was explicitly espoused by Bartók in his work, Cantata Profana (1930), and which was described in Benee Szabolcsi's well-known essay. Bartók's concern is to give up the stresses and troubles of urban life and retreat to the peaceful existence of the country, living in harmony with Nature. This relates directly to Bartók's own experience of rural life among the peasants, where he was at his happiest. With the steadily worsening political situation in Europe at the time of writing Contrasts, his ideal of a peaceful union with Nature must have seemed even more relevant. Therefore, it is not far-fetched to interpret the gestures in the second movement with relation to this philosophical theme.

When discussing the transformation of chromatic melody into diatonic equivalents, Bartók made the following conclusion: "We will have mostly the impression that we are

46 For further discussion of this subject as it relates to the works under study, see ch.9, pp.579-80.
dealing with an entirely new melody. And this circumstance is very good indeed, because we will get variety on the one hand, but the unity will remain undestroyed because of the hidden relation between the two forms.48 This specific technique is applied to the melodic material in the second movement of *Contrasts*. More generally, this movement displays a remarkable variety of melodic ideas which are successfully unified by their common links with the basic pentatonic phrase in bb.46-8. The quotation above shows how Bartók delights in hiding the links between ideas, creating the impression of a spontaneous series of events that imperceivably hold together. One of the main reasons this unity is established is because of the antiphonal texture which is maintained throughout. This textural device reflects the duality implicit in the symbolism - between people and Nature. It is not too far-fetched to suggest that the final pentatonic statement in the piano symbolises the resolution of this duality.

As usual, Bartók's modal resources in this movement are manipulated in various ways to create non-modal, abstract pitch patterns. In addition to polymodal chromaticism, symmetrical organisation of pitch is extensively used, a typical device in Bartók's music (especially in the 1930s). Throughout the development of the melodic material, the interval of a tritone is isolated and acts as a unifying element in the pitch content. More specifically, it is the tritone A-D# (or E') which is to the fore, linking up with the same tritone from the first movement. Its prominence towards the end of the second movement destabilizes the tonality to a certain extent although it is ultimately absorbed into the final diatonic seventh chord. Overall, the pitch content is more abstract and less directly evocative of folk music than was the case in the first movement.

What both movements do share, however, is an ambiguity of form, due to the extensive variation applied to the recapitulation. The second movement has a basic ternary form with suggestions of variation form present. Once again, this supports Bartók's desire as expressed in the quotation above, to create a hidden unity within variety.

48 *BBE*, p.381.
CONTRASTS: MOVEMENT THREE

In a footnote to his essay, "'Per finire': Some Aspects of the Finale in Bartók's Cyclic Form", Somfai makes the following comment about the second movement of Bartók's Violin Rhapsody No.2 (1928):49 "In this dance of the Transylvanian people the Rumanian, Ruthenian and possibly Hungarian elements virtually abandon their national character and are overpowered by the common traits of their variation technique and ornamentation." The rhapsody contains authentic instrumental folk melodies but, as Somfai suggests, Bartók varies the material to such an extent that the melodies start to lose their particular national identity and coalesce. This process is facilitated by the motivic nature of the melodies. In their original form, the motives comprising the melody were repeated and juxtaposed in a free manner, and "without apparent system".50 The following motives come from different melodies in the Violin Rhapsody No.2, II, demonstrating one way in which Bartók unifies the diverse material:51

50 RFM 1, p.7
51 There is insufficient space to make a more detailed examination of this rhapsody at this point. For a comprehensive study of this work, see Yasuko Tanaka Eastman, Béla Bartók's Second Rhapsody for Violin and its Folk Melody Sources: A Study, M.A. diss. University of Alberta, 1977.
Ex. 52: Violin Rhapsody No. 2 (1928), list of related melodic motives.

Although melodic details and tempi may vary in these extracts, the similarities in shape, rhythm and modality unite them, aurally.

Connections between this and the Violin Rhapsody No. 1, and Contrasts, were made in Chapter 3. In its original version, Contrasts consisted of only two movements, a slow and a fast one, thus following the traditional rhapsody form. The finale has several
characteristics of the friss movements of Bartók's rhapsodies, as we have seen.\textsuperscript{52} There is even a motivic connection between Ex.52 and the main melodic motif in the finale of Contrasts (see above). Therefore, a comparison of the thematic organisation between this work and the one cited above is relevant and shows important similarities. As we saw in Chapter 2, the melodic material in the outer sections of the Contrasts, III, is also highly motivic in nature. Although themes 1 and 2 are distinct in melodic line, in the course of the movement they merge together as a result of the persistent variation applied to them.\textsuperscript{53} For example, following the violin cadenza there is a return to the tonic key, B\textsubscript{b}, in b.214; at this point in the movement we could expect either theme 1 or 2 to be recapitulated. Instead, Bartók creates a 'new' melodic line which is, however, clearly related to both themes:

Ex.53: Contrasts, III, relation between melody in bb.214-7 and themes 1 and 2.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{ex53.png}
\caption{Contrasts, III, relation between melody in bb.214-7 and themes 1 and 2.}
\end{figure}

This melody has the same perpetua mobile character as theme 2, and the variation of theme 1 (shown above), and is based on the same mode of the heptatonia secunda scale, the 'acoustic' scale. It also has connections with a variant of theme 2 which occurs in bb.65-71, 75-81 (see Ex.66). Directly following this, another 'new' melody is announced on the clarinet, once again answered by the violin. As well as forming a natural continuation of Ex.53, it also has links with themes 1 and 2:

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{ex53a.png}
\caption{Continuation of Ex.53.}
\end{figure}

\textsuperscript{52} See ch.3, p.217.

\textsuperscript{53} Kárpáti sees theme 2 as a continuation of theme 1, together forming the "rondo-theme" (although he admits these themes are quite different)-see Kárpáti, Bartók kamarazenéje [Bartók's Chamber Music]. Considering the continuity of the accompaniment and the similar rhythmic character, this opinion seems justified. For the convenience of the analysis that follows, however, the terms 'theme 1' and 'theme 2' are used.
Ex. 54: *Contrasts*, III, relation between melody in bb.222-5 and earlier material.

The rhythm on the first beat of this melody derives from the codetta to the first section, in bb.118-31. Theme 1 then reappears briefly in a more recognisable form, with the modality varied. Following the violin's answering phrase, the modal cadence figure is developed imitatively, relating it in shape and rhythm to the main motif of the movement (from theme 2):

Ex. 55: *Contrasts*, III, 'head'-motives from themes 1 and 2 used imitatively.

Therefore, the passage in bb.214-40 contains three different melodies, two of which appear to be new, but have links with past material. While this passage is recapitulatory in tonality, texture and melodic idiom, a sense of spontaneity and freshness is maintained through the extensive variation of the melodic motives.
The unification of different melodies through motive development is essentially the same technique used in *Violin Rhapsody No.2*, in which authentic folk music is present. Somfai's comment earlier could equally well apply to *Contrasts*, III. Although it is possible to isolate Rumanian or Hungarian folk-like motives, phrases or rhythms, the specific national characteristics are transcended by Bartók's use of variation. A good example is the main motif of this movement which has a Rumanian or Slovakian quality because of its characteristic lydian fourth degree (see Ex.52k); in the third section of this movement (bb.169-end), the motif pervades the texture, reaching an almost absurd extreme in the coda, where it appears on four different pitch levels simultaneously:

Ex.56: *Contrasts*, III, reduction, bb.292ff.

In the form above, the motif is completely abstract, without any specific folk connotations at all. The musical nationalism implied by themes at the beginning of the movement is gradually transcended by Bartók's own manipulation of material, creating a musical internationalism.

From this broad view of the melodic processes we move to more specific forms of pitch organisation. A relationship between melody and harmony is created in themes 1 and 2, with the melodic lines outlining the fourths and fifths played on the violin. While there are obvious rhythmic similarities between the themes, their melodic contours are quite

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54 For further discussion of the form of *Contrasts*, III, and the influence of folk music elements on it, see ch.9.
Kárpáti describes theme 1 as 'closed' and 'chromatic' in character, comparing this with the 'open' quality of theme 2, which is based on the 'acoustic' form of the *heptatonia secunda*. To use Lendvai's terms, theme 1 belongs to Bartók's 'chromatic-pentatonic system' and theme 2 to his 'diatonic-overtone system'.

Ex.57: *Contrasts*, III, themes 1 and 2 simplified, pitch content.

It is possible to find a pentatonic undercurrent in theme 1, as is shown above. The melodic line is based on two P.4s, a tritone apart. While the prominence of P.4s in Bartók's melody

55 Kárpáti, op. cit., p.333.
is simply part of the composer's style, its origins can be traced back to the influence of Hungarian pentatonicism, where this interval is so characteristic. Within the framework of these two P.4s, the pitch content can be arranged into incomplete bimodal segments, A-B - C-D and E-F-(G')-A which are symmetrical around the axis, A/E. This axis is also stated, simultaneously, in the violin part, as well as being outlined by the piano in b.14 (using a different modal segment). A is the tonal centre of the melody, despite the ambiguity of the accompanying harmony. Therefore, Bartók constructs an abstract melody from simple modal resources.

When theme 2 begins in b.18, the violin's harmony is inverted and transposed, with the A-E\textsubscript{b} dyad moving up a semitone to B\textsubscript{b}-E\textsubscript{b}. The tonality, likewise, shifts up a semitone with the piano's melody firmly on B\textsubscript{b}. As was the case in theme 1, the scale of the melodic line fits into the top part of the harmony, the heptatonia secunda also outlining the tritone, B\textsubscript{b}-E\textsubscript{b}. However, the clarinet's ostinato covers a complementary modal segment, F#-G#-A, a semitone above the upper part of the B\textsubscript{b} heptatonia secunda scale (F\textsubscript{b} G\textsubscript{b} A\textsubscript{b}). The clarinet's segment connects with the bottom note of the violin's chord, B\textsubscript{b}, which together can be viewed as a segment of an ambiguous mode on B, by analogy to the same segment of the B\textsubscript{b} scale. Therefore, theme 2 is partially bimodal, with the melody establishing the overall tonic.

As we saw in the first part of this chapter, Bartók uses a peculiar tonal scheme in Contrasts, with the first movement in A\textsubscript{b}, the second in B\textsubscript{b}, and the third in B\textsubscript{b}. In the opening section of the first movement, all three tonal areas appear, presenting a sort of microcosm of the tonal structure of the work. As is evident from the above analysis, a similar process occurs at the beginning of the finale, with theme 1 in A\textsubscript{b} and theme 2 in B\textsubscript{b}, but comprising a bimodal combination of B\textsubscript{b} and B\textsubscript{b}. There is a reminder of this combination in the cadence chords at the end of the first and third sections of the movement, where all three keys are stated as a pitch simultaneity:
Ex. 58: *Contrasts*, III, cadences at the end of the first and third sections.

Following a short link passage after theme 2, theme 1 returns at the same pitch level as before but with a new accompaniment in $B^b$ instead of $A^b$. The quartal chords in the piano relate to the prominence of the $P.4$ in the melodic line and can also be arranged symmetrically around $E^b$, one of the melody's axes also. If we condense these quartal chords into a scale, the characteristic Hungarian, pentatonic scale on $B^b$ is produced. This is a very clear example of Bartók deriving harmony from melodic features that have roots in folk music:

Ex. 59: *Contrasts*, III, reduction, bb. 35-48, pitch content.
As we can see in the above, the process of variation has already begun, with the clarinet imitating the main melody in inversion (and a tone lower). The extension that follows also demonstrates Bartók’s variation technique, featuring a gradual change from modal segments to wholetone ones.

Theme 3 is heralded by a series of grotesque trills in bb.48-52 that outline a three-note semitonal cluster chord. Their appearance here is designed as a contrast, but the sonority is not too surprising considering the various semitonal pitch combinations in preceding bars that result from bimodal combinations. They also relate to the cluster-chord cadences which occur later in the movement, as shown in Ex.58. Interspersed with these trills are traditional triads (in second inversion) that lead into the triadic accompaniment figure in theme 3.

A small digression as regards Bartók’s use of traditional triadic resources is in order at this point. We found isolated examples of triadic harmony in PS, while in the first two movements of Contrasts it was more prevalent. The finale contains passages which employs such triadic harmony even more extensively; the passage above is only one of many. As we saw in the ‘Review of Literature’, this feature is part of a new stylistic trend in Bartók’s music from about 1937 onward. However, the diatonic triad was always part of his harmonic repertoire. Even his most experimental works employ diatonic triads, as we shall see in Chapter 7 with regard to VS1. What justification could Bartók have had for using diatonic triads alongside the non-traditional harmonic resources which he had developed (other than for reasons of sheer aural pleasure)? As we know, Bartók eventually denounced atonality because of the folk basis in his music, folk music always being tonal. It
could be surmised that Bartók had the same reason for not rejecting the diatonic triad. Although the folk music Bartók collected was basically monophonic, many of the Eastern European melodies outlined triadic formations. In pentatonic-based Hungarian folk music, the main degrees of the scale are the root, third, fifth and seventh (all approximately equal in weight), as we saw earlier. Bartók also provides melodic 'skeletons' of songs from his Rumanian collection which trace a progression of diatonic triads. This can be seen in the items from Bihor, for example:

Ex.60: Bartók's melodic skeleton of melodies from Bihor, Rumania.

Bartók had made such triadic 'skeletons' as early as 1914, and his essay on the folk music from Hunedoara in Rumania. Thus, if Bartók did look for a justification in folk music for using diatonic triads in his abstract works, he would have found it.

It is true that Bartók railed against old-fashioned 'Westernised' harmonisations of folk tunes. However, it was not the triads themselves he objected to but the way they progressed, which was not suited to the modal and pentatonic folk melodies. As Bartók writes: "These primitive melodies...show no trace of the stereotyped joining of triads. That again means greater freedom for us in the treatment of the melody."[my italics]

Although there a certain exceptions,[59] the manner in which diatonic triads progress in the works under study is non-traditional. A prime example of this occurs in the second movement of VSO, where the piano has parallel triads outlining a tritone (see b. 3[1-1]b.7).

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59 See, for example, Ex.9 of this chapter.
In contrast to themes 1 and 2, theme 3 has no direct links with folk music at all. It is one of those characteristically playful, ironic ideas that occur so often in Bartók's finales (from 1921 onward), and even has a distant link with similarly playful melodies in VI, III, (26 bb.1-18) and Violin Sonata No.2, I,(21-26), as Kárpáti points out.60

Ex.61: Contrasts, III, theme 3, reduction, bb.52-8, pitch content.

The leaping sevenths outline a segment of the whole tone scale, while the piano's chords are based on the characteristic 'major-minor' triads in first inversion, labelled by Lendvai as 'alpha chords'. The pentatonic basis behind 'alpha' chords has been demonstrated; in this way, the theme could be said to have an indirect link with folk music. This is supported by the presence of the P.4 in the make-up of these chords, a characteristic pentatonic interval that is prominent in the melody and harmony prior to this point in the movement.

This is the only appearance of theme 3 in the first section of the finale.61 In bb.186-211 of the third section, however, it is varied and extended at considerable length, and accompanied by a persistent ostinato constructed from the main motif (from theme 2).

60 Kárpáti, op. cit., p.334.

61 This is rather like the fleeting appearance of the trombone theme in Concerto for Orchestra, I, bb.134-42, the theme being used extensively later on in the movement (bb.316-96). Somfai describes this appearance of theme 3 as a "small episode" - see 'Notes' to Bartók Béla Chamber Music 5, p.10.
The playfulness of the theme's first appearance turns into an imitation of a particular type of jazz. While it is true that Bartók uses "...some highly peripheral elements of Goodman's [jazz-playing] style of those days...", such as the high, 'squeaky' notes (with acciaccaturas), he also attempts to integrate 'blue' notes into the texture. In the 'om-pah' piano accompaniment, for instance, the false-relation between the dual third degree, $B^\flat/B^\sharp$, creates a somewhat jazz-like modal quality, as well as being a characteristic Bartók sound. Likewise, the 'raised' fourth degree, C#, exudes a typical lydian quality (in the accompaniment) and also simulates a 'blue' note (in the melody):

Ex.62: *Contrasts*, III, extracts from 'jazz' episode (development of theme 3), reduction, pitch content.

When the clarinet enters with the theme, the 'blue' notes are extended to cover $G^\flat$, $B^\flat$ and $D^\flat$ (or C#), creating a bimodal combination with the $G^\flat$ major of the piano part. In this way, the 'blue' notes are completely integrated into Bartók's own peculiar harmonic language. It is notable, also, that the bimodality between $G^\flat$ and $G^\sharp$ occurs in the passage.

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62 The background to this jazz-imitation is provided in ch.2, pp.193-5.
directly preceding this one, with the piano's tremolo alternating between F# major and G major chords (see bb.180-85).

Did Bartók have knowledge of 'blue' notes at the time of writing Contrasts? With his direct (albeit limited) experience of jazz music in the U.S.A., and his contact with other jazz-influenced works of contemporary composers (such as the "Blues" from Ravel's Violin Sonata), it seems hardly conceivable he should not have. Further evidence can be found in piece no.151 from Mikrokosmos, about which Bartók's writes: "very much in the style of Gerswhin. Gerswhin's tonality, rhythm and colour. American folk song feeling". The following extract shows the closeness between what are obviously 'blue' notes and the typical bimodal combinations of Bartók's own style:

Ex.63: Mikrokosmos no.151, from "Six Dances in Bulgarian Rhythm", bb.51-2ff.

In Chapter 4, an analogy was made between 'blue' notes and the rough, unstable notes of the folk music Bartók collected. Although he did not feel the need to integrate jazz into his compositions to the extent that some of his contemporaries did, Bartók must have been aware of the folk roots of jazz and its features that were similar to those of Eastern European folk music.

As well as varying the intervals of theme 3 in the third section, Bartók extends the rhythm of the original idea. The repeated-note idea which results also appears in String

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Quartet No.6 ("Burletta") and Concerto for Orchestra, V. Elongation of the idea occurs to an extreme degree in the coda of the finale to Contrasts:

Ex.64: Contrasts, III, extension of repeated-note idea from theme 3.

As well as providing a show of virtuosity at the end of the work, these rather grotesque antics are the logical culmination of theme 3's development. In terms of tonality, the reiterated A's act as a huge 'leading-note' to the tonic, B♭ (along with the upper 'leading-note', B♭, which features in the bottom of the texture in bb.292-300), which is finally arrived at after much intervallic expansion.

65 See ch.2, Ex.54.
Following the fleeting appearance of theme 3 in bb.52-8, theme 1 reappears in its 'chromatic' form (as commented on in ch.2; see Ex.50). Variation continues as the chromatic lines dissolve into a new version of theme 2 in bb.65-88. Here, the melody is contained within a 'strophic' framework (three 'lines') and repeated a P.4 higher. Although the connections between this variation and theme 2 are fairly obvious, the former has enough independent character to sound like a new idea (initially, at least), in a similar way to the melodies in bb.214-33, which we discussed earlier. Considering this movement's associations with folk dance music, we could view this variation as being the next in the sequence of dance-tunes:

Ex.66: Contrasts, III, reduction, bb.65-71 and bb.75-81, pitch content.

As in theme 2, the 'acoustic' form of the heptatonia secunda is used in the melodic line but the phrygian mode makes an appearance in b.68, the pitches, A♭-G♭-F♭-E♭-D♭, providing a chromatic complement to the segment, A♭-G#-F#-E♭-D♭. The mixture of the heptatonia secunda and phrygian modes in D is reinforced by the piano's harmonies and the 'raised
fourth' sustained in the clarinet. In the second 'verse' of the melody, Bartók naturally varies his material, with the use of inversion in bb.77-8 producing a segment of the dorian mode (in G). The piano again supports the melody with chords based on a mixture of modes in G, although the harmony slips chromatically down to the tonality of F in bb.79-81. The melodies in Ex.66 are followed by codettas based on a modal cadential figure which is extended and varied rhythmically. The phrase in bb.71-4 uses a simple pentatonic 'cell', A-C-D, while the one in bb.81-9 is based on a mixture of lydian and wholetone scales:

Ex.67: *Contrasts*, III, reduction, bb.71-5 and bb.81-9, pitch content.

The harmonisation shows once again Bartók's mainly unconventional handling of traditional triadic formations, with plenty of parallel movement. More often than not, there is disagreement between melody and harmony notes, but this does not always obscure the tonal implications of the chords. In bb.71-4, for instance, the B⁷-E-G chord clashes with the A-C progression in the melody, but the 'dominant' function of the chords (leaning towards the tonic, D) is not impeded; rather, it is enhanced by the melody which reaches upwards to the tonic. As a general rule, voice-leading is important in determining the direction of the
harmony, and the chromatic 'sliding' towards tonal goals (as in Exs.66 and 68) is a feature of this movement, as it was in the first movement.

Following a short link passage based on the main motif in bb.90-3, a second varied version of theme 2 appears, this time closer to the original. As we saw in Chapter 2, the tied-note rhythms have precedents in authentic Rumanian folk music. The bimodality of a m.2, which we saw earlier, is restored here, $A^b$ *heptatonia secunda* (plus $F^b$) being combined with $A^b$ major triads, in second inversion:

Ex.68: *Contrasts*, III, reduction, bb.94-8, pitch content.

As was the case in the first varied melody (in bb.65-89), the answering phrase is changed by a chromatic, free inversion. Ex.68 acts as another brief dance-tune which leads into the climax of the section in bb.103-17, the most folk-like dance-tune of all of them. This passage, and the equivalent one in the third section (bb.248-72), are varied restatements of theme 2 (rather than completely varied versions). Both serve to re-establish the tonic key, $B^b$, in a strong manner, although in the later statement the harmony is more ambiguous and eventually shifts away from the tonic:
In bb.103-18, a close relationship between melody and harmony is maintained, with the B♭ 'acoustic' scale in the melodic line accompanied by 'acoustic' chords (with a strong pentatonic basis) and, when the change in harmony occurs in b.112, the B♭ mixolydian scales accompanied by chords based on the same pitch collection. The only chromatic alteration between these two pitch collections is from E♭ to E♭, emphasizing the pure, simple folk-like character of the passage. In the equivalent passage from the third section, an additional C# is matched by D♭ in the clarinet's melodic line, and a 1:2 model is formed, resulting in a more tense harmony which is emphasized by the high tessitura of the piano's chords and the marcato indications (see above). This also shows the close inter-
relationships among various pitch collections Bartók was fond of employing: pentatonic scales, diatonic modes, the heptatonia secunda scales, and 1:2 models.

The statement of theme 2 in bb.103-18 provides the climax of the first section. The codetta that follows (in bb.118-31) prevents too greater sense of finality by breaking down the widespread texture and the natural flow of the music, introducing a rather playful melodic motive based on the rhythm of the melody in bb.94-103. The tonality also shifts from $B_b$ temporarily, before restoring it in the final cadence. A similar thing occurs in the third section, but on a greater scale. Tension generated by harmony based on the 1:2 model creates momentum for further harmonic movements in bb.256-66, culminating in the shift to $D_b$, the violin and clarinet outlining C phrygian scales. This compares with the move to the 'dominant'-acting chord in the equivalent passage, in the first section, where the tonic, $B_b$, was firmly maintained (see bb.112ff, in Ex.69). The progression in parallel fifths traverses the tritone between $D_b$ and $G_b$ (and onto the 'dominant', $A_b$), which is followed by another tritonal progression between $A_b$ and $D_b$ in bb.270-1. Harmonic shifts outlining a tritone such as these, and others in this movement, reflect the melodic importance of this interval and relate to the 'raised fourth', lydian quality that pervades the work.

From b.272 to the coda (beginning in b.287) is notable for the way in which Bartók manipulates the pitch-patterns. He begins with a diatonic mode (C phrygian) and gradually progresses to a completely abstract scale which is derived from this mode:

66 Perhaps this shift to $D_b$ can be viewed as a reference to the tendency in Western 'classical' music to move through 'flat' keys towards the end of a movement.
If we begin on the sixth degree of the phrygian scale and descend an octave, we produce the same pattern as the abstract scale except for one progression; from the third to the second degree is a tone, whereas in the abstract scale, it is a semitone. In other words, both scales are constructed from two identical four-note patterns, but these are separated by different intervals. Moreover, the abstract scale corresponds to the scale outlined by theme 1, inverted, but this is perhaps a coincidence rather than intentional. In the process of transformation from phrygian to abstract scale, the range of the pitch-patterns expands and contracts. There is no system governing the way in which the degrees are altered, and no one pattern is the same, showing the care Bartók takes in maintaining constant variation.

Beneath the tumult of scales, the piano reiterates pentatonic chords based on G♭, sounding as the subdominant of the key of D♭. These chords gradually merge into the runs
of notes, showing the close relationship between the abstract scale and the pentatonic ‘cell’, G\textsuperscript{b}-E-D\textsuperscript{b}. Tritones appear as pitch simultaneities among the four-part texture in bb.283-6:

Ex.71: Contrasts, III, reduction, bb.284-7, pitch content.

The final chord in bb.286 is the same as the chord accompanying theme 2, outlined by the violin in bb.18-30, transposed. With the four entries of the main motif in bb.287-300, this chord expands symmetrically, the two tritones shifting a M.2:

Ex.72: Contrasts, III, expansion of harmony in coda, bb.286-end.

This process of expansion continues until the tonic, B\textsuperscript{b}, is reached in bb.313. From approximately bb.256 until this point, Bartók deliberately avoids the tonic in order to sustain
the forward-moving, harmonic momentum. Delaying of the tonic until the very end is almost a characteristic of Bartók's music, as witnessed by the conclusions of Dance Suite, Divertimento, Music for Percussion, Celesta and Strings and others. In the final six bars, the tritone between $B^\flat$ and $E^\flat$ is outlined by the various flourishes, re-emphasizing the importance of this interval in this movement, and the work, generally. A comparison between this passage and the end of the first section demonstrates a close relationship:

Ex. 73: Contrasts, III, reduction, comparison of bb.313-18 with bb.129-31.

The scalic filling-in of a tritone begins at the start of the codetta in the first section, where Bartók once again shows his penchant for constantly varying pitch patterns:
Although the scale-segments are not frequently modal here, the rhythmic pattern \( \begin{array}{c} \text{d} \\ \text{d} \end{array} \) is characteristically folk-like, as was commented on in Chapter 2.\textsuperscript{67} The modal harmonies of the two cadences in b.122 and b.127 also heighten the folkiness of this passage. It is possible to relate the reiterated G\(^b\) chords in bb.274-83 to the occurrence of the same chord in b.127.

Although the third movement is in a clear-cut ABA form, the tonic key is not immediately re-established at the beginning of the third section. B.169 (marked 'Tempo I') through to b.213 (the end of the cadenza) are based on G tonality with B\(^b\) only returning at b.214. A formal comparison between part of the first and third sections shows an interesting feature:

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\textsuperscript{67} See ch.2, pp.192-3.
DIAGRAM 5:

SECTION 3

bb.169-185: imitation using the main motif, extended into complex, contrapuntal texture; the "Scarlatti" section.

bb.186-211: theme 3 extended into 'jazzy' section, accompanied by the main motif.

bb.212-213+: violin cadenza.

bb.214ff: developments of themes 1 and 2.

SECTION 1

bb.1-52: themes 1 and 2 announced.

bb.52-58: theme 3 announced.

no equivalent.

bb.89-93: imitation using main motif.

From the above, the elements of a palendromic 'bridge' form are apparent, the recapitulation being a reverse (and varied) version of the exposition. This is hidden, however, by the transformation of the similar material. Moreover, the cadenza and the strong parallel between bb.102-31 and 248-318 serve to negate the completion of this form. The changing around of material in the recapitulation is characteristic of Bartók, however, providing another example of his tendency to vary the reoccurrence of ideas and the order in which they appear.

At the beginning of the third section, the main motif is removed from its association with theme 2 and treated imitatively, possibly evoking a baroque musical texture. When Szigeti, Goodman and Bartók rehearsed this movement, the former two referred to this point as the 'Scarlatti' passage. Following is an example of the type of Scarlattian texture Bartók may have had in mind, the piece from which the extract comes having been in his early keyboard music repertoire:

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68 In conversation with László Somfai, 1984.
The chromatic descent of the main motif in bb.169-77 is one of many chromatic progressions in *Contrasts*, as we saw in the first movement. Persistent use of this motif reaches its apex in the violin cadenza, beginning in b.212. Bartók's constant variation of melodic patterns is a feature that heightens the improvisational nature of this passage:
Combined with the main motif is the rhythmic idea derived from theme 3 (see Ex.64), which carries over from the previous section (bb.186-211) and pervades the entire cadenza. This rhythmic idea is varied in the descending arpeggio passage (which is reminiscent of a part of the cadenza in the Violin Concerto 1937-38, I) and the resultant irregularity of pattern is closer to the rhythmic world of folk performance. Particularly characteristic is the cross-rhythm in the final four bars, with groups of three working against the duple metre. Along with this, the chromatic narrowing of the motif represents the extreme point of variation in the cadenza, requiring some sort of resolution to follow - which comes with the return of the other instruments and re-establishment of the tonic, B♭. In tonal terms, the cadenza reinforces the key of G, with emphasis on tonal centres a M.3 apart. This scheme appears to have no significance in relation to the pitch content of the rest of the movement.

As was the case in the first movement, the outer sections are separated by a contrasting middle section which employs new material. There are many other parallels to be made between the middle sections of the first and third movements, as we saw in Chapter 1. The directness of the Hungarian and Bulgarian folk elements in the melody is allowed to sound unimpeded by a fairly simple harmonisation. Traditional triadic formations and harmonic progressions are employed, with chromatic voice-leading playing an important role, especially in the second 'verse', which ends with an enharmonic modulation:

70 Ch.1, p.131.
In the codetta to the melody, the harmony characteristically shifts from traditional triadic formations to more tonally ambiguous ones based on the *heptatonia secunda* scale and 1:2 model. A similar progression occurs in the melodic lines of the two episodes in bb.148-55 and bb.161-8. In the first episode, the melody outlines E lydian and C# dorian before changing into a chromatic scale (with a whole tone segment at the end). In the second, Bartók constructs an artificial scale from two portions of the lydian mode, a tone apart:
This new bimodal scale is also an extension of the E lydian mode from bb.148ff, with the D# tonic pitch being the only addition. The modal relationship goes back to the D# aeolian of the quasi-folk tune at the beginning of this section:

Ex.79: Contrasts, III, modal developments in the middle section.

The accumulation of wholetones in the harmony in Ex.78 leads naturally into the wholetone cluster-chords, beginning in b.165. Use of cluster-chords in a melodic manner is a characteristic of Bartók's style at this time; another example of this type of texture occurs in Sonata for Two Pianos and Percussion, II, bb.48-56. Lendvai labels such wholetone
cluster-chords in Bartók's music 'omega' chords.⁷¹ Although the wholetone collection frequently derives from the 'acoustic' scale in Bartók's music, in this case it develops naturally from the modes preceding. The bimodal segments in bb.163-4 also create a chromatic texture, leading into the completely chromatic, artificial scale in bb.165-8. At this point, the octaves in the bass of the piano outline a sequence of rising P.4s, which relates to the prominent melodic occurrence of this interval in bb.137, 139, 141-2, 156-60. Moreover, the top part of the piano (doubled in note-clusters) also outlines this interval in inverted form:

Ex.80: Contrasts, III, reduction, bb.165-6.

A partial mirroring of this top part occurs in the clarinet and violin although the phrase-lengths of the latter are not synchronised with those of the piano. In the following example, the mirror-writing is clarified by the retention of the bass-note only of each cluster-chord:

Ex.81: Contrasts, III, reduction and simplification, bb.165-8.

The minute changes of pattern which occur above are yet another example of persistent variation in Bartók's music, where a set scheme is never allowed completely to take over a passage. It is possible to find a modal basis to the chromatic pitch patterns that unfold in the passage above. The piano's 'simplified' line in b.165, for instance, can be viewed as a combination of segments from D♭lydian and D♭phrygian. Likewise, the 'simplified' violin line in this bar outlines segments of D♭phrygian and D♭lydian:

Ex.82: modal analysis of chromatic lines from b.165.

This interpretation is based on Bartók's own description of 'modal chromaticism' which we discussed in the Introduction and which we have already seen in use in PS and Contrasts. In the context of this middle section, bb.165-8 represent the final stage in a progression from ordinary folk modality to bimodality to bimodal chromaticism. Because of the logical development of modal resources, there is no stylistic incongruity caused by the juxtapositioning of diatonicism with modern pitch formations such as note-clusters.

Between the two episodes of this section, a memory of the quasi-folk melody occurs which is partly pentatonic. The abundance of P.4s is a further development of the second 'verse' (bb.139-42), where that interval grew in prominence. In the third and fourth phrases, there is a characteristic 'mistuning' of these P.4s, producing a modulation from G# to D:
A close relationship between melody and harmony can be observed, with the quartal chord in b.158 and the bimodal chord in b.159, which reflects the ‘mistuning’ of the melodic line. Aside from the prominence of the P.4 in this section, there are other connections (based on this interval) between passages such as the above and ones in the outer sections. For instance, theme 1 is built on a framework of two P.4s, a tritone apart (A-D-E⁵-B, see Ex.57a), which relates to the same framework used in Ex.83 (D-G-G♯-C♯, G♯-C♯-C♯-F♯). Connections such as this one create a certain unity between the outer and middle sections.

Several links between Contrasts and other works of Bartók’s have already been made. In the short score that Bartók assembled of the Violin Concerto 1937-38, there appears a sketch of the main melody from the middle section of the finale to Contrasts, written beneath the final bars of the Concerto’s slow movement. The relationship between the fragment of melody from the Concerto that appears here, and the Contrasts melody is striking:

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72 See Somfai, ‘Notes’ to Bartók Béla Chamber Music 5, p.10.
Ex. 86: Comparison of a sketch for the quasi-folk tune from *Contrasts*, III (bb.134-8) with melodic statement in the *Violin Concerto* 1937-38, II, final two bars.

It is notable how much more directly folk-like the *Contrasts* melody is; yet it is derived from an abstract, chromatic idea. We would perhaps expect the reverse process to occur, a folk-like melody giving rise to an abstract one, which is what happens so frequently in the course of Bartók's movements. This sketch shows that the composer's creative process works in various ways which may not be at all evident in the final product.

The connections between the first movements of *Contrasts* and the Concerto were mentioned in Chapter 3. A comment in a letter of Székely's to Bartók, written in 1936, points to further possible connections: 73 "It seems to me that this trio matter will not come off. Pity! What about writing a violin concerto on the same basis?" The 'trio' mentioned here, could well refer to what eventually became *Contrasts*. If this is the case, it shows that both this work and the Concerto had long gestation periods (the Concerto being written between August, 1937-December, 1938). This supports Somfai's statement, that "It is absolutely sure that during the initial phase of giving birth to a composition he spent a long time working it out in his head and at the piano." 74 This would also explain the short time Bartók took to write the score of *Contrasts*, the commission being made in August, 1938, and the work being completed in September of the same year.

A final parallel between *Contrasts* and the Concerto concerns the form of these works. The Concerto's third movement is a variation on the first movement. The third movement of *Contrasts* has aspects in common with the first movement, as we have seen, already; these aspects are summarised, below. Although these movements cannot be regarded as variations on each other, the intention is similar, and might partly explain Székely's comment about writing a concerto "...on the same basis."

1. Prominence of the tritone in the main melodies (I, theme 1, III, theme 2).
2. Development of a main motif, outlining a tritone (I, theme 1, III, theme 2); extensive use of the motif in the recapitulation.
3. Both in ternary form (ABA\(^V\)).
4. Middle section of the ABA\(^V\) form a contrast, containing new material. Both melodies in I and III are quasi-folk tunes, with 'softened' dotted rhythm \(\overline{\underline{a}}\overline{\underline{b}}\), descending melodic lines, four-part structure, and other features of Hungarian folk song in common. The harmonisation uses traditional triadic formations, and G\# and E are prominent tonal centres.
5. The material in both middle sections is developed in a similar way, with melodic lines being doubled in triads in I (bb.45-57) and doubled in whole-tone clusters in III (bb.165-168). The clusters in III provide a 'misty' equivalent of the glissandi in I.
6. Both movements outline the tonalities of \(\text{A}^b\), \(\text{B}^b\), \(\text{B}^b\) in the opening section, these being the chief tonal centres of the work.
7. Both include a cadenza.

In summarising this movement, we must first recall the main method of unification - the use of a melodic motive which is derived from the folklike second theme. The recapitulation undergoes a complete transformation mainly because of the pervasion of the textures by this motive. This transformation also occurred in movements 1 and 2 but not through the use of motives. However, in all three instances abstract ideas are developed from directly folklike ones presented early in the movement.

Many of the techniques concerning pitch generation in this movement have been encountered before: modality, bimodality, bimodal chromatism, chromatic narrowing of the intervals in a diatonic melody (the reverse process of 'extension of range'), the manipulation of modal patterns into abstract ones, and the derivation of harmony from
melody and the consequent projection of modality onto chords. It is notable that elements from Bartók chromatic and diatonic resources cohabit without any obvious duality, contrary to Lendvai's dialectical view. The use of the triad is widespread in this work and especially so in the finale. While this has partly to do with the nature of *Contrasts* and its associations with the earlier *Rhapsodies*, it also reflects a general trend in Bartók's harmonic language which was maintained throughout his late works. In both the first and second movements, the tritone was an important unifying interval at the melodic and harmonic levels. This is true of the finale also, the main motive outlining this interval. As was the case in the first movement, the origin of the tritone is in the distance between the raised fourth and tonic degrees of the 'acoustic' scale, a mode of the *heptatonia secunda* that Bartók found in Rumanian folk music. Thus, a characteristic interval from folk music is manipulated in abstract ways and pervades the whole movement.

Bartók's general method of pitch generation in the finale is simpler than in the previous movements. Once again, this is related to the genre, which can be viewed as a series of dances (with a contrasting, song-like middle section). However, as was the case in the first movement there are technical contrasts with spectacular combinations towards the end of the piece. The ingenious tonal scheme of *Contrasts* is unfolded in the finale and there are a surprising number of thematic and tonal interrelationships between this movement and the first. All these aspects elevate this work to a considerably higher status than might be suggested by Griffith's comments at the beginning of the chapter. Perhaps we can view *Contrasts* as standing between the *Violin Rhapsodies* of 1928 and the *Violin Concerto 1937-38*, both of which have links with *Contrasts*.

As we saw in the 'Historical Background', Bartók took a long time to settle upon the title of this work. The reasons for choosing 'Contrasts' have, I hope, become evident during this chapter. However, a brief summary of the 'contrasts' will serve to remind us, starting from the general features and moving to the more specific:

1. Contrast between the outer movements (extroverted) and the middle one (introverted).

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75 See ch.9, p.577, for further discussion of this formal point.
2. Contrast between the outer and middle sections of both the first and third movements.

3. Contrasts between the exposition and recapitulation of material in all three movements.

4. Contrasts between the predominantly simple textures (melody plus harmony) and the occasional complex texture (motivic material in contrapuntal guises)

We should not seek too many explanations for why Bartók chose this title. After all, a title given to a work months after its completion is not necessarily going to have a great deal of significance beyond describing surface details. An additional reason for the title might simply have been for the purposes of memorability - 'Contrasts' will stay more firmly in our mind than titles such as 'Rhapsody' or 'Two Dances'. Having said this, the word 'Contrasts' does sum up an aspect of Bartók's newly evolving style at this time, as Somfai suggests in his description of Bartók's late period.76

CHAPTER 7

THE ORGANISATION OF PITCH CONTENT IN SONATA NO.1 FOR VIOLIN AND PIANO

In his essay, "The Influence of Folk Music on the Art Music of Today" (1920), Bartók asks, "How is this influence of the completely tonal folk music compatible with the atonal trend?" In answering this question, he uses Stravinsky's Pribaoutki as an example, demonstrating how various folk-like, tonal melodies are accompanied by "...a sequence of underlying, more or less atonal tone-patches very characteristic of the temper of the motives". Further on in the same essay, he stresses the importance of the folk music elements in the organisation of pitch content: "Even the obstinant clinging to a tone or a group of tones borrowed from the folk motives seems to be a precious foothold; it offers a solid framework for the compositions of this transition period and prevents wandering about at random." As we saw in Chapter 2, a direct thematic and textural link exists between one of the movements from Pribaoutki and the third movement of VSI. A more indirect comparison can also be made between the techniques Bartók describes in his essay and those appearing in VSI, III. Like Stravinsky, Bartók employs melodies which imitate folk genres closely. Theme 2 of this movement, for instance, combines elements of Ruthenian and Hungarian folk music, the melody being based in E dorian with a strong pentatonic undercurrent. It is accompanied by what could be described as as "...more or less atonal tone-patches", the harmony consisting of a three-note, semitonal cluster-chord, D#-E-F. Isolated, this cluster-chord is without a tonal centre, but in the context of theme 2 it encircles

1 BBE, P.318.
the tonic E. The persistent reiteration of this pitch and its placement at the bottom of the texture provides the tonal 'foothold' in this passage:

EX.1: VI, III, Theme 2, violin and piano, pitch content.

Bartók integrates the cluster-chord with the melody in two ways: first, there are the chromatic gracenotes that outline the cluster-chord in b. 4[30]-[0], and second, the sextuplet figurations in the melodic line relate aurally to the quintruplet figurations in the accompaniment. This is consistent with Bartók's statement, that the "...tone-patches [are] very characteristic of the temper of the motives". Further on in the melody, the m.3 between G and E is inverted, becoming C#-E. Simultaneously, C# is added to the harmony (along with G#), followed by another m.3 down to A#, eventually resulting in a symmetrical chord:

Ex.2: VI, III, violin and piano, pitch content.

Once again, a characteristic melodic interval is projected onto abstract formations in the harmony which do not have the same definite tonal qualities as the melody.
This type of integration of quasi-folk melodic elements with an accompaniment is similar to the procedures Bartók used in his most advanced arrangements of authentic folk music. In these sorts of arrangements, "...the added composition-treatment attains the importance of an original work, and the folk melody is only to be regarded as a kind of motto."\(^3\) An example of this can be seen in *Improvisations* for piano, op.20, the work immediately preceding *VS1*. The accompaniment to the opening two refrains in *Improvisation No.5* consists of a m.2 dyad which grows into a three-note cluster-chord, C-\(^4\) C#-D. The prominence of the interval of a second in the melody relates to the harmony:

Ex.3: *Improvisation no.5*, piano, bb.1-13, pitch content.

This example and Ex.1 present similar attempts at integrating the tonal and atonal, in a simple manner. Bartók’s manipulation of folk music elements could be more complex, however, as we have already seen in *PS* and *Contrasts*, and as can be seen in the works discussed above. In the last twelve bars of *Improvisation No.5*, for instance, the final line of the folk tune appears in varied form at four different pitch levels, altogether covering all twelve pitches of the chromatic scale:

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\(^3\) "The Relation Between Contemporary Hungarian Art Music and Folk Music" (1941), *BBE*, p.352.
Ex.4: *Improvisation no.5*, piano, bb.60-4, pitch content.

The four-fold transposition of the melodic fragment does not sound artificial or incongruous because the interval of transposition - a m.3 - is derived from the melodic outline itself. Following this passage, the piece cadences on a complex chord which is a partial harmonic version of the preceding melodic lines (and also refers back to the cluster-chord at the beginning of the piece). Complex as it is, it clearly re-establishes G as the tonic, with the pitches of a pentatonic seventh chord (G-B♭-D-F) present.

If the *Improvisations* represent an extreme point in Bartók's arrangement of authentic folk music, then *VSI* represents an extreme point in his combination of the atonal elements and tonal, folk-like elements, particularly in the third movement. This extremity is not only due to Bartók's particular interest in atonality at the time. The quasi-folk elements are frequently very close to authentic folk models and generally less distanced than in later works such as *Contrasts*. This heightens the dichotomy between the elements of art music and those of folk music. Halsey Stevens writes, "The period of the Violin Sonatas is one in which the folkloristic basis of Bartók's music is less apparent than at any other time in his career." This might apply to the first and second movements but it underestimates the significance of folk music influence in the finale.

As was stated in the Introduction, we must always take into consideration other, non-folk influences in Bartók's music. This is particularly true in a work such as *VSI*

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4 Although Bartók was sympathetic towards the atonal composers of his time, as can be seen in his essays, he later denied ever writing atonal music. See 'Historical Background', p.12.

which on occasions shows the strong influence of composers contemporary to Bartók. The example of Stravinsky's *Pribaoutki* has already been mentioned. Bartók was also interested in Schoenberg's music at the time, as is evident by his essay entitled "Arnold Schoenberg's Music in Hungary" (1920). Various techniques such as the avoidance of pitch-doublings and repetitions in melody and harmony, and the octave displacement of melodic lines can be found in *VSl* and other works written around about this time. Bartók discusses the trend towards atonality generally in another essay from 1920, entitled "The Problem of the New Music".

The Polish composer, Karol Szymanowski was probably an even greater influence on Bartók in *VSl*, especially in the opening movement. Prior to writing this work, Bartók had ordered and received several scores of Szymanowski's including a work for violin and piano, *Three Myths* (1916), which he performed in 1921. This influence manifests itself in certain types of textures and a tendency towards complexity in rhythm and harmony, as exemplified by comparing the openings of *VSl* and *Three Myths*:

Ex.5: Szymanowski, *Three Myths* for violin and piano, bb.1-17.

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6 *BBE*, pp.467-8.
8 Szymanowski's works, such as *Three Myths*, contain prominent modal and pentatonic-based passages which may also have attracted Bartók. However, we should not overestimate Szymanowski's influence; Bartók does not mention him in his essays or articles (to my knowledge, at least). In fact, according to the Polish violinist Jan Tawroszewicz, the influence may have worked the other way around.
Before examining the pitch organization of VSl in detail, a general point about Bartók's style at this time (and earlier) should be made; it is mainly homophonic. In the essay, "The Problem of the New Music", where he discusses "...the free and equal treatment of the twelve tones", Bartók concentrates on harmony and provides several examples of new chordal possibilities. In a paragraph dedicated to "homophonic music", he describes "tonal masses" and "thin tone-patches whose features depend on the number of tones used, the absolute pitch, the relative (that is, open or closed) position, and so forth". Melody in atonal music results from the way single tones are arranged vertically and therefore, "The perfection of the form of the entire work depends solely on whether the rise and fall of this line represents an harmonic entity". Bartók personally advocates a mixture of homophony and polyphony, but his works from about this time show that the former is dominant. In the opening of Miraculous Mandarin, for instance, the complex web of parts is always underpinned by reiterated chords that form ostinati. Likewise, all three of the Etudes, op.18 are concerned with harmonic effects, decorated in a wide variety of pianistic figurations. Even in the contrapuntal middle section of VSl, III, the independence of the parts is blurred by frequent harmonic "tone-patches":

10 See Miraculous Mandarin, b.1-[6]
A factor contributing to the largely homophonic style in VS1 is Bartók's intention to make the instruments thematically independent, thus avoiding the use of imitation. The violin usually plays its own melodies and figurations and the piano, likewise, although the latter often provides an harmonic accompaniment as in themes 1 and 2 of the third movement. When the piano takes over the melody in theme 3 of this movement, the violin plays strummed chords. This is not to say melody and harmony are entirely unrelated but, as Halsey Stevens says, "There is no interweaving, there is only welding." 11

SONATA NO.1 FOR VIOLIN AND PIANO: MOVEMENT THREE

In our examination of the finale of Contrasts, it was shown how the motivic nature of the quasi-folk material allowed for extensive melodic variation. Consequently, the motives gradually lost their specific national character, and in the recapitulation the thematic material was transformed into something fresh and seemingly new. The finale of VS1 also

11 Halsey Stevens, op. cit., p.211.
employs quasi-folk, instrumental themes which are motivic in nature and which are varied in the recapitulation. Theme 3, for instance, is shortened considerably, varied melodically, and combined in counterpoint with a new line that derives from motives in theme 1:

Ex.7: VS1, III, violin and piano, reduction, $40^-40^b.5$.

In the coda, a memory of theme 1 occurs, comprising motives very similar to those actually used in theme 1 but also similar to motives from other themes:

Ex.8: VS1, III, violin and piano, reduction, $46^{bb.5-10}$, and related melodic motives.

In the same way as in *Contrasts*, Bartók avoids a more obvious restatement of theme 1 (which has already appeared three times, varied each time) and succeeds in providing a refreshing and vital conclusion to the movement. However, the accumulation of melodic motives in varied forms does not succeed in making the recapitulation entirely convincing.
All three themes from the exposition return in the same order along with related material from the development section. Despite the considerable variation of thematic material and the insertion of two 'new' episodes, the restatement of all the themes slows down the momentum of the movement. The profusion of motivic material does not achieve a transformation of the form as occurred in the recapitulation of *Contrasts*, III. In his essay on Bartók's finales, Somfai refers to this movement as being "wearying", rather long" due to the obligatory recapitulation of all the themes. Although the form falters mainly because of this obligatory recapitulation, the nature of the melodic material is also partly to blame, as we shall see later from a closer examination of the music.

This brief description of a general aspect of pitch organisation serves as an introduction to the detailed discussion of thematic material. Melodic ideas are formed and varied using techniques which we have already observed in the other works under study. For example, pitch patterns are constantly changing from folk-based ones to more artificial ones. Theme 1 use a form of the *heptatonia secunda* which avoids the perfect fifth between the tonic and dominant degrees as we saw in Chapter 2, concentrating instead on the tritone. As the melody grows, the scale patterns become more chromatic, employing what could be labelled a 1:1:2 model in bb.4-7 (equivalent to Messian's 'third mode of limited transposition'):

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12 Somfai "Per finire: Some Aspects of the Finale in Bartók's Cyclic Form", *op. cit.*, p.399.
The manipulation of the folk-like motive labelled $x$ into a chromatic guise demonstrates how simply Bartók can unify an element derived from folk music with one that seems entirely based in art music. (Also see[36] bb.1-7) In its varied form, the motive assumes an almost Schoenbergian quality.13

The continuation of theme 1 in [4-8] is almost exclusively devoted to the juxtaposition of two complementary wholetone scales. The close relationship between the *heptatonia secunda* and wholetone scales ensures a smooth transition from one to the other:

13 Compare this form of the motive with the melodic idea which appears in the final seven bars of Schoenberg's *Drei Klavierstücke* op.11, which Bartók had been familiar with for almost ten years.
The semitonal difference between the two wholetone scales is initiated by the cadential glissando in the bar before 4. This combination of complementary wholetone scales in a single melodic line could be considered as a type of bimodal chromaticism. In the second and third appearances of the rondo theme, the *heptatonia secunda* is transformed into another close relative, the 1:2 model:

Ex.11: VS1, III, violin, b.5 23-23 b.8, pitch content.
The A♭ and C♮ in bb.7-8 do not belong to the 1:2 model; A♭ is part of the characteristic modal cadence, and both A♭ and C♮ extend the pitch collection symmetrically around the axes, B♭ - E/F. In the third 'line' the modal segment is extended to cover six pitches (A♭-B♭ -C# -D♭-E♭-F#) while the top part of the melody covers a segment of the 1:2 model. Bartók avoids using single scale patterns such as the 1:2 model for too long, preferring instead to vary the patterns and produce new scales. This feature can also be seen in the coda of this movement:

Ex.12: VSI, III, violin, extracts from the coda, b.9-end.
The complementary whole-tone scales (x and y) are restated at their original pitch level. In the final eleven bars (from \( \text{§50} \) onwards) the complex mixture of scales gives way to simple mixolydian runs, based on \( B^4 \). These could be viewed as resolved forms of the original \textit{heptatonia secunda} (also on B), with the third, fifth and sixth degrees being raised a semitone (see Ex.12c).

A latent relationship exists between themes 1 and 3 due to modal similarities; both begin by outlining the first five notes of the same form of \textit{heptatonia secunda}, theme 1 on \( B^4 \) and theme 3 on \( C^b \). It is the tritone in particular which draws these themes together and this interval becomes prominent in theme 3, both melodically and harmonically:

Ex.13: VS I, III, [\( \text{I2} - \text{I3} \)], comparison of pitch content in themes 1 and 3.

Although the opening of theme 3 is similar to that of theme 1, the continuation is different. The melody covers pitch material belonging to two scales which we could label \( C^\text{eolian} \) (with a phrygian second degree in b.2) and \( C^b \text{aeolian} \). This is an example of bimodal chromaticism applied to a single melodic line, although not all pitches of the chromatic scale are included. Alternatively, we could interpret the \( C^b \) segment of the pitch content as a
'mistuning' of the normal modal progression (thus, $G^b - C^b - E$ instead of $G^b - C - E$). The diminished octave between $C^b$ and $C^\flat$ recalls the juxtaposition of complementary wholetone scales on $C^b$ and $C^\flat$ in theme 1, 4 ff. This characteristic of the melodic line occurs elsewhere, also; for instance, in the second rondo statement the melodic line is extended into a 1:2 model producing a diminished octave between $B^\natural$ and $B^\flat$ and is accompanied by pounding 'alpha' chords that reinforce this interval (in the form of a M.7). A similar melodic pattern appears in the coda with the violin outlining the pattern, $B^\flat - F - E - D - C - B^\natural$. In many cases, the diminished octave or M.7 is divided into a tritone plus P.4, as in 14 ff for instance, where an arpeggio figure provides an harmonic summation of earlier melodic contours in theme 3:

Ex.14: VS1, III, piano 17 b.2-b.3 18.

The superimposition of P.4 and augmented 4 is an harmonic and melodic entity which is common in Bartók's music; as we saw in Chapter 6, his precedent for this particular structure comes from scales he found in Rumanian and Slovakian folk music. Ex.14 is the final stage in an extensive developmental process applied to theme 3. By b. 2 13, the melodic line of theme 3 is complete; what follows are two variations, the first in b.1 13-14 and the second in 15-17 ff, separated by an interlude. The melodic line is developed intervallically:

14 This is Kárpáti's view; see Bartók's String Quartets, p.143, ex.128.
Ex. 15: VS1, III, pitch patterns in theme 3.

Most significantly, the opening modal segment outlining a P.4, C-D-E\textsubscript{b}-F (based on the pentatonic 'cell', C-E\textsubscript{b}-F), becomes a diminished fourth (A-B-C-D\textsubscript{b}). Likewise, the segment outlining a tritone (C-D-E\textsubscript{b}-F-G\textsubscript{b}) becomes a P.4 (E\textsubscript{b}-C-D\textsubscript{b}-D\textsubscript{b}-E\textsubscript{b} and others). This is an example of Bartók's technique of intervallic narrowing which we saw in *Contrasts*, in Chapter 6.

In the first variation of the melodic line, Bartók employs the technique of octave displacement which he probably learned from Schoenberg. There is, however, a difference in function in Bartók's use of this technique. Schoenberg's octave displacements were intended to heighten the expressiveness of the melody and nullify tonal centres by avoiding smooth voiceleading. Bartók's octave displacements in theme 3 do not nullify the tonal sense at all; nor do they add expressiveness to the melody:
Ex.16: VSl, III, piano left hand, b.1 13-13 b.4.

The technique lends a colourful, impetuous character to the melody, although it seems a little out of place and artificial in the context.  

As we saw in Chapter 2, theme 2 reappears in a varied form in 18 b.5-21 b.11, combining with a melodic motive from theme 1. E dorian of the melody in theme 2 is replaced here by another bimodal mixture which exudes a lydian flavour. Although the melody is tonally ambiguous, E can be once again be established as the main modal centre with the heavily emphasised A# being the characteristic lydian fourth degree. The basic scale outlined is a form of the heptatonia tertia: 16

Ex.17: VSl, III, 18 b.5-21 b.11, pitch content of violin.

The overall melodic line is polymodal due to the segments of B lydian and D lydian that appear above and below the main scale segment on E. Moreover, the complete chromatic scale is covered. This type of polymodal chromaticism where the various modal segments

15 As has been mentioned in ch.1, octave displacement in Bartók's music seems unlikely to have been inspired by vocal transpositions which frequently occurred in folk music, although he may have felt more justified in employing the technique having found precedents in the music of the peasants. See chs. 1 and 4. Bartók uses this device with more consistency in the Etudes, op.18 (especially the first, virtually an exercise in octave displacement) where it is more in keeping with the highly abstract music.

16 For an explanation of heptatonia tertia, see 'Review', pp.51-2.
are separated by tessitura was seen in the second and fourth statements of the rondo theme, in *PS*, III.17

Having investigated the characteristics of the main melodic material in this movement, we must now examine the harmony and tonality and its interaction with melody. In a short but penetrating study of certain harmonies in this movement, Kárpáti emphasizes Bartók's use of chords based on thirds.\textsuperscript{18} His starting point is a statement made by Bartók in which he justifies using traditional triadic formations, to which we have already referred in Chapters 5 and 6:\textsuperscript{19}

...it seems to me that a deliberate (not too frequent) use of chords of older tonal phrasing within atonal music would not be in bad taste. An isolated triad of the diatonic scale, a third, a perfect fifth or octave amidst atonal chords - certainly limited to quite special places which are suitable for the purpose - do not give an impression of tonality; furthermore, these means, already withered by long use and misuse, acquire from such a totally new surrounding a lively, quite special effect arising just from the contrast. Yes, even whole sequences of such triads and intervals, if they do not have a tonal effect, might be perceived as quite in style. An unconditional elimination of these old sonorities would imply the disclaiming of a - not even inconsiderable - part of the means of our art; however, the ultimate objective of our endeavours is the unlimited and complete use of all extant, possible tonal material.

Triadic formations are frequently present in the third movement of *VS1*, as in the harmonisation of theme 2, for instance. However, Kárpáti's essay specifically relates to the Theme 1 and the chords which accompany the opening melody. He attempts to find a "logic" behind the interval of bimodality between the melody and harmony, the former based on B (\textit{heptatonia secunda}) and the latter on C# (the overall tonic, established by its placement and reiteration at the bottom of the texture):

\textsuperscript{17} See ch.5, Ex.19.


\textsuperscript{19} *BBE*, pp.457-8
While acknowledging that the harmony is based on the combination of perfect fifths and 'mistuned', diminished fifths, Kárpáti says that the melody notes which do not double harmony notes provide "...the missing thirds of the open fifths in the piano part".\(^{20}\) As well as linking melody and harmony together, these 'third structures' include 'dual' degrees, discussed in Chapter 6.\(^{21}\) The following example is based on Kárpáti's analysis:

Kárpáti states that the tonic of the melody, B, is combined with the tonality of C#, because B "...is the seventh of the chord in C sharp, and a logical continuation of the structure of thirds".\(^{22}\) This is not a satisfactory explanation, however, when we consider that if the melody's tonic were any one of the seven degrees of the scale it would still be part of the

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\(^{20}\) Kárpáti, *op. cit.* , p.379.

\(^{21}\) See ch.6, pp.377ff.

\(^{22}\) Kárpáti, *op. cit.*, p.380.
'third structure'. For instance, the second 'line' of the melody cadences on D instead of B, but is still harmonised by chords on C#; therefore, the "third structure" cannot explain precisely why Bartók chose to base his melody on B rather than D (or any other degree of the scale).

The heptatonia secunda on B is not the only scale that Bartók could have used to fill in the "missing thirds of the open fifths". In fact, any 'white-note' mode provides the pitches necessary to produce 'dual' third degrees, as the following hypothetical cases demonstrate:

Ex.20: Hypothetical combinations of 'white-note' scales with the harmony from theme 1, VS1, III.

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Therefore, Kárpáti's analysis would appear to emphasize a particular relationship between melody and harmony that does not have much significance in terms of Bartók's original conception. The tower of thirds in Ex.19 seems an inappropriate interpretation of a chord so dominated by fifths.

A simpler explanation for the combination of B and C# tonalities can be found in the pentatonicism of Hungarian folk music. As we saw in Chapter 1, the minor seventh degree in the Hungarian pentatonic scale is consonant, and was treated as such by Bartók as far back as his Second Suite (1905-07), op.4. The application of the consonant seventh to bimodal relationships such as the one in Ex.18 would seem to be a logical extension of the pentatonic influence in Bartók's harmony and tonality. It is also possible to analyse the chord and melody in question in terms of pentatonic pitch structures:

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23 Bartók also notes the consonance of the seventh in the pentatonic scale in his essay, "The Folksongs of Hungary", BBE, pp.334-5.
Ex.21: VS I, III, pitch content of the opening of theme 1, bb.5-1.

This pentatonic undercurrent is more strongly hinted at in the bass line progressions in S b.3 and S b.5. The semitonal difference between C# and D is encapsulated by the C#-D dyads in the low register of the piano, in bb. 5 and 1. However, the harmony is not bitonal;24 it is an entity based on C#, which is better described as two three-note chords superimposed a perfect fourth apart, the chord consisting of a perfect fifth and a diminished fifth. This is the way Bartók views the chord, judging by subsequent developments in the harmony. The interval of separation between the three-note chords is varied and eventually the chord itself is altered, first by inversion and then by voiceleading:

24 As we saw in the 'Review of Literature', Bartók did not believe polytonality really existed. See pp.53-4.
Chord formations are dictated to a certain extent by the melody, its contour frequently interlocking with the top of the chords. Melody and harmony are most strongly linked by the interval of a tritone. Although not explicitly stated here, this interval is often outlined by the melodic contour. One of the tritones, C#-G, is shared by the melody and harmony while the others are predominantly mutually exclusive in pitch:

Ex.23: VSI, III, extracts from theme 1 and the relationship between melody and harmony.
As Kárpáti points out, F\textsuperscript{b}\textsubscript{b} is heavily emphasized in the melody, stressing the importance of the tritone between B\textsuperscript{b} and F\textsuperscript{b}. (This is reestablished in bb.6-7 in a cadential manner.) If we refer to Ex.19, we find F at the top of the 'third structure'. Because of the emphasis on this pitch in the melody, Kárpáti says "...the ends of the [thirds] chain are in a dynamic tension". An alternative way of viewing this pitch, however, is as the major third of a triad on C#. While this seems to be a reversion to the 'third structure' concept which was discounted earlier, there is justification for this view to be found in the short introduction to the movement. In the opening five bars, there is a gradual build-up of the chord which accompanies the melody in theme 1. During this build-up, however, other pitches are sounded which do not become part of the main chord, notably E#:

Ex.24: VS1, III, violin and piano, reduction, (a) bb.1-6, (b) bb.5-6, and (c) the final progression of the movement.

The E# in the introduction is transferred to the melody which follows, enharmonically becoming F\textsuperscript{b}. This represents a 'tierce de cadie' in C# minor, the overall tonality of the work. However, this pitch is always associated with the minor third degree, E\textsuperscript{b}, even in the final chord of the movement (see above). This major/minor aspect of the chord becomes a feature of the harmony in this movement, as it frequently does in other pieces of Bartók.

In the second rondo statement, the major/minor chord appears in first inversion (on D), thus assuming the characteristic 'gamma' formation, to use Lendvai's terminology. With the presence of the violin's B in the final chord, the bimodality of the opening is maintained at the end along with the major/minor combination. It also produces a typical Bartók 'acoustic' ending, the seventh chord being akin to the final chord of \textit{Contrasts}, II.

The continuation of theme 1 in $\text{4-8}$ is chiefly concerned, harmonically, with the alternation between tonic and dominant-sounding chords, paralleled by the alternation between complementary wholetone scales in the melody. The 'tonic' chord is associated with the scale $C\text{-}D\text{-}E\text{-}F\#\text{-}G\#\text{-}A\#$ and the 'dominant' chord with $C\text{-}D\text{-}E\text{-}F\text{-}G\text{-}A\#$.
The relationship between melody and harmony is reversed in the cadence in bb.5-3\[7], the violin's B being reunited with the chord on C#. Although the make-up of the chords is not tonic and dominant in the traditional sense, the presence of the P.5s (C#-G# and G#-D#) and the movement to and from the tonic and dominant degrees of C# minor is enough to suggest this function. Schoffman's concept of 'expanded unisons' is useful here.\[26\] The semitonal clash between C# and D in the 'tonic' chord and G# and A in the 'dominant' does not alter the essential function of the chords; they could just as easily be unisons:

Ex.26: Use of 'expanded unisons' in theme 1 of VSl, III, bb.5-3\[7].

The rondo theme is varied harmonically as well as melodically when it returns a second and third time. The chords accompanying the second statement are cited by Lendvai as an example of 'alpha' harmonies, as was mentioned above, consisting of pentatonic intervals (or 'golden section intervals'), namely M.2s, m.3s and P.4. Moreover, there is a direct relationship between these 'alpha' chords and the 1:2 model which is outlined by the melody. In Lendvai's terms, the 1:2 model is a horizontalization of 'alpha' chords. For instance, the third of the chords below can be expressed as an incomplete 1:2 model:

Ex.27: VSI, III, basic harmonic basis of second rondo statement, and relation to 'alpha' chord and 1:2 model.

Bartók exploits this relationship between melody and harmony in the second rondo statement, although the 1:2 model in the melody is complementary in pitch to the 'gamma' chord accompanying it. In all twelve pitches of the chromatic scale are covered as a result of the use of complementary pitch content:
The use of the 1:2 model here could also be viewed as a reference to Arabic folk music. There are two reasons for suggesting this. The first is by way of a comparison with the third movement of Suite, op.14, which Bartók states has an Arabic quality. By this, Bartók is undoubtedly referring to the prominent use of 1:2 and 1:5 models which relate to the modes he found in several of his Biskra items.27 Reinforcing this is the second reason; the accompaniment consists of a percussive chordal ostinato, featuring rhythmic groupings of twos and threes, which would seem to refer to Arabic drumming (see ch.8).

Therefore, the origins of the scale in this passage could be either Hungarian (if we adapt Lendvai's approach) or Arabic. There is a danger, however, in isolating an example from its context. In this case, the 1:2 model clearly stems from previous scale formations at the conclusion of theme 2 (the varied version) and from the 'anticipatory gesture' in b. 722-25: 22: 

27 The driving pulse of this movement from the Suite, op.14 also owes something to the Arabic drumming Bartók heard.
Ex. 29: VS1, III, relationship between the end of theme 2 and the second rondo statement.

In the 'anticipatory gesture', the heptatonia secunda is transformed into a 1:2 model by the appearance of E# in b. 22. The chord in this bar is carried over into the section following while the violin transposes the 'anticipatory gesture' up a P.4 to produce a different 1:2 model on the tonic, B. Therefore, the 'alpha' chords and 1:2 models of the second rondo statement are really produced through the manipulation of the heptatonia secunda, which has precedents in Rumanian rather than Hungarian or Arabic folk music!

The third statement of the rondo theme employs more directly modal harmonies than previous statements. In [33] to [34], for instance, the chords are based on the same scale as the melody, a heptatonia secunda scale on B, although in the case of the harmony the C# is absent (and therefore the scale could be viewed as an incomplete hyper-phrygian on E). The A♭-B♭ dyad is a 'mistuned' chromatic complement of the A♭-B♮ dyad (itself an inversion of the m.7, which is consonant in terms of Hungarian pentatonism); as was the case in $PS$, 

III, the M.2 is prominent melodically and is consequently isolated as a separate element of the harmony:

Ex.30: VS1, III, basic pitch content of the third rondo statement, [33 - 34].

The harmony in the rest of this rondo statement is based on the two chords above, on the first and fourth degrees of the scale. These chords are constantly varied with pitches from different modes being added until the superimposed 'diminished' triads appear at 35 onward, separated by a semitone. These (and other collections) are forms of the 'alpha' chord:
The evolution of these complex, dissonant chords from the modal harmonies at the beginning of the rondo statement is a characteristic process in Bartók’s music as we have observed in the previous chapters. Modality in the harmony is derived from modality in the melody which is, in turn, inspired by folk melody and modality.

Tonality in these three rondo statements is generally well defined, partly as a result of the modal basis and partly because of the staticism of the bass pitches and harmonies above them. In the first statement, C# is heavily emphasized, the music returning to this tonal centre at the end of theme I, thus closing this section. Likewise, the melodic line returns to its modal centre on B. The 'alpha' chords in the second statement are based on D, creating a new bimodal relationship with the melody which maintains B as its centre. B becomes absorbed into the 'alpha' chords, however; in Lendvai's terms, B and D belong to the same tonal 'axis' (D-F-G#-B). As the 'alpha' chord grows and the pitch D disappears (in [24]ff), the tonality becomes ambiguous, although the continued melodic emphasis on B
promotes this pitch as the tonic. By contrast, melody and harmony in the third rondo statement are in agreement, B being the tonal centre. Bartók avoids returning to the tonic C# (despite a 'dominant' preparation in ff), so as to sustain tonal tension through the recapitulation:

Ex.32: VS1, III, tonal schemes of the three rondo statements.

In Chapter 5, a connection was made between harmonic staticism and folk music (with regard to PS). The same point can be made with this movement. Themes 2, 2v, and 3 as well as the rondo theme all feature simple static harmonic accompaniments which highlight the folk-like qualities of the melodic line.

The E-tonality of theme 2 and its relationship with the overall tonality of the movement (C# 'minor') would seem to be a reference to classical sonata-rondo form, in which the second subject is in the relative major key when the key of the movement is a minor one. However, the modality of theme 2 is hardly a conventional 'major' with dorian and lydian elements being combined, the latter appearing in the inner-part of the piano. The dual third and fourth degrees that result also have a precedent in Rumanian bagpipe music, as we saw in Chapter 2. Once again, the tonality is clearly defined through the combination of static harmony and modal-based melody.
The highly abridged recapitulation of theme 2 is based on C# ('minor'), once again following the tonal conventions of classical sonata-rondo form. Dorian modality is replaced by phrygian on E in the violin line (except for the chromatic gracenotes), while the piano's chords are pentatonic based, the progressions outlining a 1:3 model:

Ex.33: VS1, III, b.4(38–38), pitch content.

As we saw earlier, the varied version of theme 2 (18 bb.5 ff) employs a form of the *heptatonia tertia* in the melodic line, mixed with segments of B and D lydian (see Ex.17). Accompanying this is a predominantly triadic harmony based on the 'acoustic' form of the *heptatonia secunda* on D, a M.2 below the modal centre of the melody. Thus, an already bimodal melodic line combines with the harmony to produce a vertical bimodal relationship, the overall tonal centre being D. Towards the end of the theme, both melody and harmony shift down a M.2, the former outlining D lydian and the latter the C major triad. Despite the complexity of the polymodal combinations, this theme remains directly folklike because of the characteristic melodic shapes and the simple, 'off-beat', chordal accompaniment which allows the melodic line to assume the dominant role:
The interval of bimodality between violin and piano (a M.2) relates to that of theme 1, where the interval was a m.7 (between C# and B), the inversion of a M.2. Whether or not this was a planned relationship cannot be ascertained but it is notable that in the recapitulation, both themes 1 and 2\textsuperscript{V} are no longer bimodal; in the former, piano and violin are both centred on B and in the latter they are centred on E (although there are references to the old bimodal relationships).

Bartók's use of traditional triadic formations in theme 2\textsuperscript{V} would seem to contradict his own condition (from 1920) for employing such chords, which was so long as they did not create a 'tonal effect' (see the quotation on p.475). Undoubtedly, however, Bartók speaks about 'tonal effect' in the more traditional sense, resulting from triadic formations functioning in their conventional, diatonic-based manner. This is illustrated at the end of the passages in question where the triads alternate indecisively between C and D. In the exposition, it ends on a C triad; in the recapitulation of this theme, it ends on a D triad. It is possible the passage could conclude on either of these triads without altering the harmonic sense because the triads do not function in their conventional way. Ex.36b below demonstrates Bartók's method of juxtapositioning diatonic triads in non-conventional ways in the recapitulated version of this theme. E is maintained as the tonal centre (until the final few bars) through the simple reiteration of the E major triad plus lydian fourth. This
chord becomes the chief reference point for the entire passage, despite the mainly unrelated harmonies that surround it:

Ex.35: (a) VS1, III, violin and piano, reduction, \( \text{bb.5-10} \).

(b) Tonal analysis of theme 2\textsuperscript{v} recapitulated, \( \text{b.5 b.44} \).

The other feature that contributes toward the negation of a traditional tonal effect is the melodic line above the triads which typically tends to avoid pitch duplication.

Theme 3 acts as a contrast to the previous themes, not only in character but also in tonality. C is the overall key, a semitone below the tonic of the movement. The modulation to this key is boldly abrupt, occurring at the climax of theme 2 on a C major triad in its second inversion plus a minor sixth above. Although this chord is led into logically by the chords preceding it, the pitch C is completely absent from theme 2, and consequently, its appearance here as the new tonal centre is aurally surprising:
Once again, a triadic formation is prominent in the harmony and creates a definite tonal effect but not in the conventional manner.

Earlier in the chapter we saw how the modal segments and intervals of the melodic line were manipulated to create harmonic entities, such as the arpeggiated figures in ff. In this way, the folk modality of the melody is projected onto the harmony. The relationship between the violin’s pizzicato chords in and the melody is more obscure, however. The interval of a third (major or minor) appears to bind these two together although, as is common in this work, chromatic alterations create dissonant clashes between them. The melodic contour outlines thirds which relate to the accompanying chords; this relationship is made more explicit prior to when the piano descends in thirds following a pattern set by the chords above:
Ex.37: VS1, III, pitch content of theme 3, relation of melody to harmony.

It is notable from the above that the chords expressed horizontally form *heptatonia secunda* patterns. However, we cannot be certain this is a deliberate manipulation of a folk mode because of the variety of scales employed in the melodic line. There is no one basic scale or pitch series. Harmonic movement is dictated by voice-leading within the chords:

Ex.38: VS1, III, harmonic progressions in theme 3.

A more direct way in which Bartók unifies melody and harmony is through the use of semitonal dyads, interpolated between phrases of the melody in the piano part. Deriving
initially from the opening segments of melody in ff, these dyads form a rhythmic dialogue with the violin's pizzicato chords, with some imitation occurring as shown in Ex.38. In the small episode in the middle of theme 3, the semitonal dyad is isolated and becomes a melodic ‘cell’, combining with the tritone which was also isolated from the previous material:

Ex.39: VS1, III, violin and piano, reduction, b.3 pitch content.

This is the first truly atonal passage in the movement (using Bartók's concept of atonality, at least). Significantly, it occurs where there is not a trace of folk music. The intervallic argument is derived from the folk-like material preceding it but is completely abstract, with each pitch having approximately equal tonal weight, except for the tied B~ in b. 3-4. All twelve pitches of the chromatic scale are covered without very many repetitions. The emphasis on the tritone also contributes towards the nullification of tonality. In the context of the movement up to this point, this episode seems a little artificial and out of place although it does provide a link from the first part of theme 3 to the more chromatic, abstract variations in ff. An analogy can be made between this episode and those in Improvisations for piano (written just prior to VS1), the latter occurring between settings of authentic folk song verses. The episodes in Improvisations seem to work better, however, because of the small scale nature of the pieces.
As we saw in Ex.7, the recapitulation of theme 3 features the addition of a counter-melody, constructed from melodic motives from the theme 1. This counter-melody also carries over melodically and rhythmically from the 'alphorn episode' preceding it. The tonality of C also returns at the beginning of the 'alphorn episode' with the recurrence of the C major chord plus added minor sixth (shown in Ex.36). However, in the recapitulation of theme 3 the piano's melodic line drops a P.4 to be based on G, forming a bimodal chromatic combination with the violin's melody on F#. Both melodic lines use the *heptatonia secunda*:

Ex.40: VSI, III, violin and piano, reduction, link from 'alphorn' episode to recapitulation of theme 3, pitch content.

The piano's *heptatonia secunda* is constructed on two modal tetrachords which outline pentatonic 'cells', contrasting with the violin's form of this scale which is the same as that of theme 1, transposed up a P.5.
Thus far, we have dealt with the harmonisation of the three main themes of this movement. As was the case in the finales of *PS* and *Contrasts*, the direct folk music influence in these themes is projected in various ways onto the harmony and tonality, constituting an indirect influence. In the development section, however, the direct influences recede into the background although strong folk-like hints remain, such as the proliferation of Hungarian 'dotted' rhythms. Bartók applies abstract techniques of variation to his thematic material in a similar way to those we saw in the small episode in theme 3. Theme 1, for instance, is augmented rhythmically and abbreviated, producing a musical statement which is not at all folk-like. In *f1ID*–*l8l*, the thematic material is fragmented and varied, resulting in a texture constructed from melodic and rhythmic 'cells'. The scarcity of folk music influence in this passage is matched by virtually atonal harmonic language which depends on intervallic links with the melodic 'cells' for its coherence. Despite the abstractness of the development section, we must nonetheless examine it closely to see how Bartók manipulates the material which originates from folklike themes.

The harmonisation of the 'augmented' theme in *~ b.13–1261* is related to the harmonisation of the second rondo statement. Both feature 'alpha' chords but in the former the m.3 dyads are isolated and give rise to a varied sequence of chords. This harmonisation is led into by the passage in *~ ~ b.12* which acts as a codetta to the second rondo statement. Based on cadential material from theme 1, this codetta also employs 'alpha' chords which outline a pentatonic 'cell':
As we can see, in the 'augmented' theme the melody is based on the 1:2 model rather than the *heptatonia secunda*, which was used in the original version of theme 1. There is, therefore, a close relationship between the melody and harmony, the 1:2 model being a horizontal form of the complete 'alpha' chord, as we saw earlier. Not all the pitch content of this theme belongs to this 1:2 model, however. For instance, the bass-line has a C# instead of C# to avoid doubling the Db in the upper part. This demonstrates Bartók's penchant for allowing aural considerations to take precedence over set pitch patterns. Despite this, the overall harmonic context of the pentatonic-based 'alpha' chords is sustained, here and in the second statement of the 'augmented' theme where the bass line is associated with triads in first inversion.

The basic 'alpha' chord on Bb carries over into the 'grazioso' theme which alternates with the 'augmented' theme in this section. The 'grazioso' theme is a sort of parody of theme 2, as we saw in Chapter 2, with its former dorian modality 'mistuned' by...
intervallic alterations. This type of variation on quasi-folk ideas through the manipulation of intervals is common in Bartók's music. Hungarian pentatonicism is not far below the surface, however, both in melody and harmony:

Ex.42: VS1, III, violin and piano, reduction, \(26\) bb.1-14.

Each appearance of the anacrusis figure in this passage is different either rhythmically or intervallically, showing Bartók's concern for variation at the minutest of levels. Although most of these intervallic changes are of a chromatic nature, there is a purely pentatonic figure in \(28\) bb. 5 - 8.

Bartók varies the accompaniment in the second statement of the 'grazioso' theme, employing triads in first inversion and thus welding this theme to the 'augmented' theme preceding it (see Ex.42). Non-triadic formations occur as a result of mirror-inversions between the parts. Here, the mirror-inversions are used in a tonal context but in the first
movement, where they are employed frequently, the mirror-inversions produce passages of atonality (such as b. 3 \([13-14]\) and \([14-15]\) b.4).

The following harmonic and tonal summary of the development section up to \([28]\), led into by the second rondo statement, shows the all-pervasiveness of the 'alpha' harmonies and the prominence of B tonality:

Ex.43: VS1, III, tonal analysis of \([22-28]\).

B is the tonal centre of the violin's rondo melody (theme 1) and its occurrence in the development can be seen as relating back to this. This key also returns in other significant places in the movement, namely the third rondo statement (\([33]\) ff) and the coda (\([43]\) ff). The other tonal centre present in Ex.43 is D, which is closely related to B.

According to Lendvai's 'axis' system, which would seem valid to use here because of the 'alpha' harmonies, D and B are on the same tonal axis.

In \([28-31]\), the melodic material of the 'augmented' and 'grazioso' themes is fragmented into motivic ideas which are, in turn, further developed. Four main motives can be isolated; however, as the development proceeds, two of these become indistinguishable:
Ex.44: VSI, III, melodic motives in the development section,28-31.

The fourth motive is the trill or tremolo, which appears no less than forty-seven times between 28 and 31. Although associated with the 'anticipatory' motive in this passage, trills appear earlier on in the 'grazioso' theme, written out in full. The pervasion of the development section with trills and tremolos suggests their function is not purely decorative. They create an atmosphere of burlesque which is characteristic in Bartók's music. Trills and
tremolos are extensively used in Nos. 4, 5 and 6 of the *Improvisations* (1920), for instance, producing a mood of burlesque.\(^{28}\)

Harmonically, this passage begins in a similar manner to the 'augmented' theme, maintaining the 'alpha' chords. As the texture becomes more contrapuntal, however, pitch simultaneities become less consistent in quality, the triadic formations changing into chords in fourths and other types. Their construction partly depends on the melodic motives and partly on the principle of the avoidance of pitch doubling. Although tonal centres can be tentatively identified, the pitch simultaneities seem deliberately designed to nullify a sense of tonality. These features can be observed in the following analysis:

Ex. 45: VSO, III, violin and piano, analysis, b.4-30 b.9 (dynamics and articulation omitted, plus simplifications).

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\(^{28}\) Paul Griffiths suggests there is a "note of sarcasm" in No. 5 of the *Improvisations* and that Bartók is deliberately mocking his own interest in and use of folk music. In support of this view, he quotes from Bartók's autobiography of 1921:

"Moreover, there is nowhere in the world a real interest in this branch of musical science [ethnomusicology]- possibly it does not have the significance some of its fanatics have ascribed to it!" Griffiths, *op. cit.*, p.99.
The tritone emerges as a significant interval at 30. It derives from both the 'anticipatory' motive and the 'dotted rhythm' motive (see Ex.44) and is also an important ingredient of the 'augmented' and 'grazioso' themes. Ultimately, we can trace this interval back to theme 1, and the scale outlined by the violin's melody in particular (see Ex.9). The tritone, B-F, establishes itself as an integral part of an ambivalent modal harmony in G - b.2ru - on the key of G, the tonal goal of the preceding passage. The P.5, G-D, in the bass at this point suggests the drone of bagpipes while the ornaments are also in keeping with bagpipe music. The passage in Ex.45 leads into a G# pedal-note (at 31), preparing for the return of the tonic C# and the recapitulation (although C# is subtly avoided by an interrupted cadence onto A at 32).

It is interesting to compare this developmental passage with an equivalent passage in the first movement of PS (see ch.5, Ex.59). In both cases, the texture is based on the combination of motivic ideas and intervals; the pitch simultaneities do not follow a noticeable pattern other than avoiding pitch doublings. There are two major differences between these passages, however. The first concerns the nature of the melodic motives. In PS, they are more clearly established and defined by the previous section, and when brought together create a truly contrapuntal effect. In VSI by comparison, the motives merge into each other and the individual voices are mixed, producing a more harmonic effect. The second difference concerns the rate of harmonic change. The motives in VSI move freely without a tonal reference point (until 30, that is), while in PS they move over a static harmonic basis.
(ostinato patterns on D and G). The static ostinato gives the melodic motives added prominence and thus assists the contrapuntal effect. In terms of what Bartók appears to have set out to achieve, the development section in PS is more effective.

Material from the development section reappears in varied form at the beginning of the coda, in \[44\] ff. The 'grazioso' theme is varied so that a bimodal relationship is formed between melody (on D) and harmony (on C#). Once again, the modal melodic line is distorted by interval expansions (see bb. 3-2 \[45\]). It cadences on the 'alpha' chord on B from \[23\] bb.13ff and leads to a restatement of the 'augmented' theme. From \[46\] onwards can be considered a varied recapitulation of theme 1, even though the opening melody does not return. Despite the augmentation of the time values of the melody in the piano part, its association with the original melody is strongly enough established at this stage of the movement for us to hear it as recapitulatory, and the violin's entry emphasizes this. It is noteworthy that the actual time value of the 'augmented' theme's quavers here is less than half that of its original occurrence in the development section - \[\varphi =168\] instead of \[\varphi =80\]. Theme 1 in its original form has the tempo, \[\varphi =144-138\]; therefore, the 'augmented' theme in the development is really closer to a double augmentation (in real time):

Diagram 1

<table>
<thead>
<tr>
<th>Theme 1:</th>
<th>[\varphi =144-138]</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Augmented' theme in coda:</td>
<td>[\varphi =168]</td>
</tr>
<tr>
<td>'Augmented theme in development:</td>
<td>[\varphi =80]</td>
</tr>
</tbody>
</table>

The significance of the key of B was remarked upon earlier in the chapter. As we saw, theme 1 consisted of a melodic line on B and harmonic accompaniment on C#. In the coda these tonalities are swapped, with the piano being on B at \[46\] and the violin on C# when it enters in \[46\] b.5. The 'alpha' chords in the piano part stimulate 1:2 models in the rushing violin line:
Ex. 46: VS1, III, violin and piano, 46–48 b.3.

(Augmented theme)

Presto (2 × 168)

p marcato il trma

B: (alpha harmony)

Meno vivo (d = 112)

sempre più agitato ed accelerando

(chords in fourths)
The 'alpha' chords, based on thirds, eventually change into chords in fourths (at \([48]\)) which also expand into the chords in fifths at the presto, where the opening accompaniment pattern returns. There is then, a sense of summation in the coda, with connections being made between the 'augmented' and original versions of the rondo theme, between the harmonisations based on chords in thirds and chords in fifths, and between three prominent tonal centres of the movement, C#, B and D.

At the beginning of this chapter, we saw Bartók raising the question of whether or not tonal folk music and atonal art music were compatible. The finale of VSl attempts to find a solution to this with its "quasi-folkloristic" thematic material combining boldly with 'atonal' chord structures and progressions. As we have seen from our analysis, Bartók relates pitch content to the quasi-folk melodies so as to fuse the two together. The way in which Bartók derives harmony from melody, artificial scales from modal ones and sets up bimodal combinations which encompass the entire chromatic range of pitches is, in the main, stylistically convincing. There is a great variety of harmonic resources employed, from cluster-chords to simple triads, a variety which was to become firmly established in Bartók's mature works. It is in the more abstract sections of the movement such as the development where the music does not seem to succeed as well. While Bartók's variational powers are in full force in this section, the artificial devices such as rhythmic augmentation, intervallic expansion and 'cell' technique seem inappropriate following the strongly folk-like thematic material in the exposition. Themes 1, 2 and 3 along with the variation on theme 2 sound like four melodies from the fast movement of a rhapsody rather than a sonata-rondo movement and consequently, the development section is too different in nature. As we saw earlier, the careful recapitulation of all the themes also hinders the natural flow of musical events which is demanded by the thematic material. The problems of thematic manipulation and formal planning create a dichotomy between Bartók's compositional techniques and his quasi-folkloristic material with the result that the latter is too noticeable. As László Somfai writes,
"...the Western European ear will be more impressed by the special barbaric Eastern European personality in it [VSI]."\textsuperscript{29}

One further problem in the movement is the lack of a single melodic motive, idea, interval or even shape which directly unifies the material. In the finale of PS, the simple monothematicism binds the rondo statements and episodes together. In the finale of String Quartet No.4, a melodic motive from the first movement returns to control the movement towards the conclusion. The domination of the four-note idea in Contrasts, III, was demonstrated in Chapter 6. All of these examples contain less thematic ideas than the finale of VSI and yet the latter has no real unifying element other than the the sonata-rondo structure. At various stages in this chapter, we have seen possible unifying elements; the tritone in themes 1 and 3, for instance, or the 'alpha' chords which bridge the gap between the second rondo statement and the development section, or the cadential motives from theme 1. None of these are aurally prominent enough to become a truly unifying idea, however.

This problem is a formal one but it also relates to the nature of the quasi-folkloristic themes. It could be said that Bartók allowed too much variety and contrast in the themes for them to work together successfully in a sonata-rondo movement—again, a rhapsody movement would accommodate them well.\textsuperscript{30} By comparison, in the finale of Contrasts themes 1 and 2 are so homogenous as to be a single theme and theme 3 is successfully combined with the main, four-note motive from theme 2 in the recapitulation.

\textsuperscript{29} Somfai, "Per finire': Some Aspects of the Finale in Bartók's Cyclic Form", \textit{op. cit.}, p.397.
\textsuperscript{30} It is interesting to note that Bartók suggested movements 2 and 3 could be played together without the first movement, thus creating a typical rhapsodic form of slow-fast (which is used in Violin Sonata No.2). See Kárpáti's 'Notes' to Bartók Béla Chamber Music 4.
MOVEMENTS 1 and 2 of SONATA NO.1 for VIOLIN and PIANO

In our analysis of the third movement of VS1, we concentrated on the combination of quasi-folk music material with the various art music, compositional techniques. Direct elements of folk music influence in the score give rise to indirect influences in the construction of harmony and melodic ideas. Movements 1 and 2, however, contain no truly direct folk music influences. Suggestions of peasant instrumental style can be found in the second movement, as was discussed in Chapter 2, but even here it is not possible to pinpoint any particular genre.\textsuperscript{31} The almost complete lack of perceivable folk music material in the first movement coincides with the highly personal, romantic tone of the music which bristles with melodic and harmonic complexities of a seemingly non-folk type.

This being so, a complete bar-by-bar, section-by-section analysis of the pitch organisation in terms of folk influence in these two movements would not be appropriate. It is more pertinent for us to choose relevant sections or phrases which may have a basis in folk music, discussing the melody and harmony in a more general way than in previous chapters.

In his book, \textit{A Guide to Bartók}, Kroó compares Bartók's music from about the years 1918-1923 with that of Schoenberg and his followers. (Points of comparison between the two were made earlier in this chapter.) However, Kroó concludes by saying, "...behind his [Bartók's] melodies, thematic structures, rhythms and accents, there was always discernible, even in the most individual and complex compositions, the inspiration of folklore and the Hungarian mother tongue."\textsuperscript{32} Is this true in movements 1 and 2 of VS1, regarding "melodies" and "thematic structures"? The answer would appear to be affirmative

\textsuperscript{31} Ch.2, pp.143-8.
in certain cases, such as theme 1 from the first movement in which an abstract, chromatic melodic line has a pentatonic basis, surfacing at the cadence in particular:

Ex.47: VS1, I, violin, b.3-[1], pitch content.

The basis of this melody on the Hungarian pentatonic scale on D becomes most apparent in bb.6-7 with the characteristic cadence. Although the melody is chromatic in pitch content, the opening six bars clearly outline a typical Hungarian 'descending' melodic structure, starting on the modal seventh degree (C), falling to the fifth degree (A) and onto the dotted-rhythm figure that outlines the third and root (F-D), in bb.5-6. Such melodic progressions are common in authentic Hungarian folk melodies:
In Ex.47, the pentatonic scale on D is complemented in bb.6-8 by its 'mistuned' equivalent, \( E_b \cdot (G) \cdot A^b \cdot B^b \cdot D \), forming a bimodal mixture. This leads into the melodic motif in b. 8, \( D^b \cdot B^b \cdot F^b \cdot D^b \), which is destined to become a sort of \textit{idée fixe} or motif, recurring in \( \text{bb.2-5, bb.3 ff, 21 bb.7-11 and 27 b.2 of this movement.} \)

Compressed into a chord, this motif is immediately familiar to us as an 'alpha' chord ('gamma' to be precise). Its relationship with the pentatonic seventh chord which underlies the melody to this point is clear to see. It is noteworthy that a pentatonic version of this melodic motif was used by Bartók in the third movement of his \textit{Second Suite}, written in 1904(1). He cited this pentatonic version in an essay written later in life: 34

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33 It is possible that Bartók intended this recurring melodic idea as a sort of 'love' motif. As we saw in the 'Historical Background', Bartók was temporarily in love with Jelly Aranyi, the violinist for whom he wrote \textit{VS1}. The concept of a 'love' motif is justified by comparison with an earlier motif Bartók invented for the violinist Stefi Geyer, with whom he was in love with at the time (1908):

As in Ex.47, a seventh chord is outlined in a characteristic romantic gesture, although the intervals and direction of the melodic line are different.

34 See "The Folk Songs of Hungary" (1928), \textit{BBE}, p.335.
Ex.49: Motif from *Second Suite*, III, bb.9-8, bass clarinet.

Such an allusion supports the view that Bartók conceived the motif from *VS1*, I, as a 'mistuned' pentatonic idea.

At this early stage of the movement, however the motif has yet to be established and is merely a part of a process of interval expansions which culminate at [1], with a melodic contour covering over two octaves. Interval expansion is one of the compositional techniques frequently employed in this movement. The dual pentatonic basis of theme 4, for instance, is also distorted by interval expansions. Another example occurs in the lead-in to theme 3:

Ex.50: (a) *VS1*, I, piano, b.17-17 b.4, pitch content.
Theme 3 also displays a hint of pentatonicism which is then distorted by the reappearance of the motif on different pitch levels. Towards the end of this theme, the motif melts into arpeggio patterns entirely based on pentatonic intervals (m.3s and p.4s), leading into the link passage at \[ \begin{array}{c} \text{Ex.51: } \text{VSI, III, violin, b.1} \end{array} \]

The other themes do not contain modal or pentatonic features. Theme 2 is a good example of the type of jagged, dislocated melodic lines which are common in this movement, the rhythms and intervals being developed in an entirely abstract manner. Octave displacement which we mentioned earlier in the chapter is a particular characteristic of this melody:
Ex.52: VS1, I, violin, b.6\textsuperscript{2}\textsuperscript{-}\textsuperscript{2} b.9.

Aside from thematic statements, there are only occasional phrases that betray a modal or pentatonic origin. In the passage preceding the beginning of the development section, for instance, Bartók develops an anacrusis figure in the following manner:

Ex.53: VS1, I, b.1 \textsuperscript{10}\textsuperscript{-}\textsuperscript{10} b.5.

In the process of interval expansion, two scale-types with a basis in folk music occur, the pentatonic scale and the 1:3 model. Their peculiar qualities are highlighted by the absence of accompaniment at these points. Likewise, in the build-up to the final climax of movement 1, the piano line includes several modal segments:
In this case, however, the quality of this scale is obscured by the other parts.

The long solo violin melody at the beginning of the second movement appears to have few traces of folk modality. It is personal and romantic in tone, akin to passages in earlier works for violin by Bartók, such as the Violin Concerto (1908) and Two Portraits.35

There is one conspicuously diatonic phrase in bb.8-9 which is developed intervallically.36

Also of significance is the reappearance of the motif (used in the first movement), in retrograd and varied rhythmically:

35 Kárpáti Béla Bartók kamarazénéje [Bartók's Chamber Music], p.280.
36 Paul Griffiths claims that the phrase in bb.10-11 is a reference to the opening of Beethoven's String Quartet in C#, op.131. Griffiths, op. cit., p.103.
It is possible to give a bimodal interpretation of this opening melody. The first three notes in b.3 imply A lydian, and prior to this A, G#, F# and B from the same mode are also sounded. F♭, D♭ and C♭ are part of an incomplete aeolian mode on A although the B♭'s in bb.5-7 imply the phrygian mode. This mixture of modes covers a large portion of the chromatic scale; therefore, this melody is an example of 'modal chromaticism' which Bartók described in the 'Harvard Lectures', over twenty years later.

A further, more tangible link between the first and second movements occurs in the opening phrase of the latter which restates the final six pitches of the first movement (in the piano part) up a semitone:
Ex. 56: VS1, links in pitch content between movements 1 and 2.

This succession of six pitches constitutes a type of 'row' which appears in various forms during the first movement. The bottom half of the opening chord in this movement outlines the 'row', on the tonic C# (C#-E-Gb-G#-A#-Bb, appearing in a slightly different order).

There are other fairly prominent examples to be found:

Ex. 57: Appearances of the 6-note 'row' in VS1, I.
The 6-note 'row' can be re-ordered to produce an 'alpha' formation and such formations are prevalent in this movement. In terms of melody, the motif from theme 1 outlines the 'gamma' formation, as we saw earlier, linking it to 6-note 'row' also present in theme 1:

Ex.58: Connection between 6-note 'row' and motif.

Paul Griffiths differs with me over the constitution of the 'row'. He states that "...the entire first movement...moves through different forms of the six-note set, which gives rise not only to chords but to thematic motifs, such as the one in the violin called forth in the quotation above".37 As we can see below, his six-note 'set' begins on the second pitch of my 'row':

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37 Griffiths, ibid., p.102.
Ex.59: Comparison between Griffith's 'set' and my 'row'.

It is difficult to understand why Griffiths chooses this particular sequence of pitches for his 'set', as it does not appear prominently in this movement. Moreover, the extract he refers to in the quotation does not quite fit his 'set' (nor my 'row') in terms of intervals:

Ex.60: Comparison between Griffith's 'set', my 'row', and the chords and motif from VS1, I, bb.5 [16-16], cited by Griffiths in pp.101-2 of Bartók.

While the note 'rows' do not match in terms of pitch with the passage above, it is notable that the piano's chordal gesture equates with the motif on the violin, when re-ordered into 'alpha' formations. Both ideas originate from theme 1, where the piano's chordal gesture is a sort of codetta to the violin's melody. In the above they are combined, making the intervallic relationship between them more explicit.

Whichever six-note 'row' or 'set' we favour, it does not play as significant a role in the pitch organisation of this movement as Griffiths suggests. Along with the motif, it recurs only fairly often, acting as a unifying agent, and is certainly not all-pervasive in the manner of a Schoenbergian note row.

Although (my) six-note 'row' is an abstract collection of pitches, it is possible to find an indirect basis for it in folk modality. In its first appearance in the opening chord of the movement, the pitches covered are C#-E-G#-A#-Gb-B (with the chord being further extended to cover D, F, F# and Ab). On top of this, the violin's melody is based on D
pentatonic \(D^{b}-F^{b}-G^{b}-A^{b}-C^{b}\) as we saw in Ex.47. In this context, it does not seem unreasonable to view the bottom part of the piano's harmony as outlining a pentatonic seventh chord on C#; C#-E-D-G#. Therefore, theme 1 is bimodal between C# (the overall tonic) and D up to b.8, at least. Other interpretations of this opening theme are possible, however, as we shall see.

It is the triadic aspect of the six-note 'row' that is developed in the opening melody from the second movement. This is evident in the following extracts which also show Kárpáti's analysis of sequential pitch patterns.

Ex.61: Analysis of violin melody in VS1, II, first section.

There are further connections between the six-note 'row' at the end of the first movement and the opening melody from the second movement, as we can see in Ex.61. These are obscured, however, by the octave displacements and re-orderings of pitches. Bartók's method of melodic construction also hides elements of folk modality that might be present. Phrases are angular and asymmetrical and repetition of pitches in close proximity to each other tends to be avoided. In the opening three bars, for instance, nine different pitches are covered with only one repetition, and in the bars marked x in Ex.61 all twelve pitches of the
chromatic scale are covered, with $A^b$ the only pitch to be repeated. There seems to be a lack of direction in some phrases (see bb.5-8 and 12-15), caused by melodic lines which twist and turn about the same tessitura. This is a deliberate device, designed to convey a sense of restlessness and frustration.

The solo violin passages in this movement have been compared with the opening 'ritornello theme' from *String Quartet No.6* (1939), played by the viola. Both have a similar sense of personal anguish expressed in a restless, chromatic line. The viola melody, however, is smoother in its progression and has a more obvious shape, building up to a climax at the top of the tessitura and then dying away to the lower register. The violin melody by contrast seems almost shapeless. Its widely leaping line is a feature of Bartók's style at this time which became less pronounced in the years following the composition of *VS1*. The move away from this type of melodic line might be attributed to the increased absorption of folk melody into Bartók's style and also, perhaps, the decreased influence of 'expressionist' composers such as Schoenberg.

Touches of modality are to be found in the cadences of these solo violin passages, obscured somewhat by the clashing harmony beneath them:

Ex.62: *VS1*, II, violin, bb.6-3[1] and bb.6-3[3], pitch content.

We have already remarked upon the modal (or rather bimodal) qualities of the opening part of the violin melody (see Ex.55).

The folk-like qualities of the melodic line in the middle section (41-5 and 7-8) were discussed in Chapter 2. In the more abstract, 'personal' sections (5-7 and 8-10),
the melodic line also have features of modality although these are very distanced by the complex texture:

Ex.63: VSI, II, piano, right hand, bb.1-3.

Despite the examples provided so far, much of the melodic material in these two movements do not have a modal or pentatonic basis, or if it does it is often hidden well below surface of the music. There are other significant aspects of the melodic style which are non-folk in origin. We have encountered some already; octave displacement, interval expansion, the chains of thirds in the solo violin melody from the second movement and so on. In addition to these, Kárpáti emphasizes Bartók's use of the "distance phenomena" or "the division of the octave into equal intervals". An example of this are the various artificial scales such as the 1:2 or 1:3 models. The first movement, in particular, abounds with examples of melodic patterns based on these artificial scales:

Ex.64: Examples of the 'distance phenomena' in VSI, I.
In the contexts above, the scale models have no folk connotations at all; they are abstract formations used in an abstract manner. The aspect of symmetry in this example is also characteristic of Bartók's style at this time (and later). It is more especially applied to harmony in this work, as we shall see.

Another aspect of Bartók's melodic style which is not folklike is its often fragmented, dislocated character. Theme 4, for instance, consists of a series of abrupt gestures that make up a disjointed melodic line (see Ex.50). This type of fragmentation is different to the type encountered in imitations of folk music based on motives such as we saw in the finale - in this case, the melodic line is more or less continuous (as it is in authentic folk music) despite the motivic nature of the material. Even the broad melodic line in theme 1 of the first movement is not permitted to flow for any great length of time. Kárpáti ascribes this aspect to the influence of the "expressionist" composers such as Schoenberg who also tended to cut their melodies into fragments and motivic gestures.38

In the light of the points outlined above, it is difficult to agree wholeheartedly with the statement of Kroó’s quoted on p.508, While traces of folk modality are to be detected in certain melodic passages, there are frequently phrases and figurations in which the "...inspiration of folklore and the Hungarian mothertongue" are completely absent. This is true not only of these movements from VSJ, but also of movements and sections from other

38 Kárpáti, ibid., pp.44-5.
such 'expressionistic' works from this time; the *Etudes*, op.18 are the most comprehensive example of this.

In the third movement, we saw how Bartók constructs pitch simultaneities which attempt to match 'the temper' of the quasi-folk melodic lines. Various folk modes and characteristic intervals derived from the melodies are often present in the harmony and tonality. With the absence of quasi-folk melodic ideas in the first and second movements, the harmony is, naturally, not pervaded with elements derived from folk music. Despite the abstract harmonic language, there are pitch simultaneities which have roots in folk music.

The analysis of theme 1 in the first movement showed the bimodal basis of the melody (on D pentatonic) and accompanying harmony (on C#). The violin's D pentatonicism is also partially covered in the chord at the opening which can therefore be interpreted as a bimodal complex. Kárpáti views the chord as a chain of thirds with three dual degrees (the A# being equivalent to B♭ and thus forming a dual seventh degree with B♭). This analysis employs a similar method to the one we saw in the first movement of *Contrasts*, in Chapter 6:39

Diagram 2: Ex.65:  

The problem with this analysis is once again notational; according to the way Bartók has written the chord there is the interval of a M.2 between G# and A# which spoils Kárpáti's chain of thirds. However, Kárpáti's general point in the essay involving this analysis is that Bartók maintained the use of chords in thirds (albeit, in an unconventional manner) and from this perspective, Diagram 2 is useful. When the harmony eventually shifts, the structures in thirds are maintained, although varied and without a 'complete' chain as given above:

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39 See ch.6, pp.377ff.
Ex. 66: VS1, I, harmonic analysis of b.4 [I - I].

It is clear the composer is thinking here in terms of four-note seventh chords, superimposed in pairs at various intervals. As the analysis shows, three types of seventh chord are present, demonstrating Bartók’s concern for variety at the harmonic level. In bb.2-1 [I], the bottom half of the chord slides down a semitone and forms a non-triadic, eight-note chord overall (circled in Ex. 66). This technique is also employed in the piano’s gestures that follow [I]:

Ex. 67: VS1, I, harmonic progression in b.1 [I - I] b.4.

As we shall see, these chordal segments play an important role in the development section of this movement. Superimposition of chords is a technique we encountered at the beginning of the third movement, beneath a quasi-folk melody (see Ex. 22).

40 This chord looks symmetrical but is not so because of the F#; if this pitch were F, then the chord would be symmetrical!
Other isolated examples of modal influence in the harmony can be found in movements 1 and 2. Bimodal harmony (or counterpoint) appears at the beginning of the development section in the first movement, in a manner that foreshadows the use of bimodality in later works.\textsuperscript{41}

\textsuperscript{41} See for instance *Contrasts*, II, bb.46-48; in ch.6, Ex.35.
Ex. 68: VSl, I, violin and piano, b.3 11-12 b.5, pitch content of the piano.

Mano lento.  
\begin{align*}
\text{(dotted)} & \quad \text{ppp} \\
\text{poco rit.} & \quad \text{poco rubato} \\
\text{poco rit.} & \quad \text{poco stringendo} \\
\text{Più mosso.} & \quad \text{rallentando al} \\
\text{Più lento.} & \quad \text{poco rubato} \\
\text{(dotted)} & \quad \text{ppp} \\
\end{align*}

Pitch content
b.3 b.4 b.5

DE phrygian

All 12 pitches of the chromatic scale covered in piano part

G mixolydian (or D dorian)

Più mosso. poco stringendo

Più mosso. poco stringendo

rallentando al

Più lento.
The piano part uses the technique of bimodal chromaticism. By employing two modes which complement each other in terms of pitch, all twelve pitches of the chromatic scale are covered. Characteristically for this piece, the violin remains independent of the bimodal scheme, playing a highly varied version of its opening theme.

Symmetrical writing is extensively used in the development section, as we can see in Ex.68 where it is extended to the horizontal aspect. It is more commonly used in the vertical sense, however, being essentially synonomous to the 'distance phenomena' which was mentioned earlier. Through the process of symmetrical intervallic expansion, chords in fifths and fourths are produced:


(The violin part again is independent of the symmetrical progression in this passage.) Symmetrical formations such as the above usually create an unstable tonal effect and therefore are most suitable in the middle section of a sonata form which is traditionally where the tonality is on the move.

The use of characteristic intervals from folk music as building blocks for the harmony is something which occurs only occasionally in these movements. It is important...
to avoid attributing all prominent, isolated appearances of a particular interval to the indirect influence of folk modes. Much depends upon the particular context in which an interval occurs. For example, it is reasonable to attribute to folk music the peculiar lydian flavour of the tritone, E-A# in the harmony in the third movement, [41]-[43]; this interval appears prominently in the folk-like melodic line, also. However, it would be wrong to do the same for the succession of tritones in theme 2 from the first movement (2bb.3-8). The tritone in this case is used in a quasi-Romantic manner, the passage assuming an almost distorted Lisztian or Chopinesque quality.42

The tritone is significant on the harmonic and tonal levels as well as melodic in the second movement. In this case, it has both folk and non-folk origins. As we saw in Ex.56, the opening melody has a reference to the lydian mode through the outlining of the tritone between the tonic (A) and the raised fourth (D#) in b. 3. In the first main cadence in bb. 4-3 [1], the violin and piano are based on tonal centres a tritone apart (F# and C, respectively); this tonal relationship recurs at the beginning of the middle section in 4ff and also at the conclusion of the movement. The tritone is also prominent in the chord sequences in the piano part which alternate with the violin's solo passages. These passages are also another example of Bartók's unconventional use of traditional triadic formations, discussed earlier:

Ex.70: VS1, II, piano, b.3 [1]-[1].

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42 See, for instance, the middle section from Chopin's Etude No.3 in E major, from *Etudes*, op.10.
The tritone maintains its prominence in the middle section, as a melodic interval, an interval outlined by main melody notes, and an harmonic entity. It is also combined with the p.4 to form a characteristic pitch 'cell', labelled x in the following analysis:

Ex.71: VS I, II, violin and piano, b. 25-6b.1.

As we saw earlier, the pitch 'cell' x is common in Bartók's music (both melodically and harmonically), with origins in particular scale patterns from Rumanian and Slovakian folk music. The use of the tritone and this pitch 'cell' helps to make the various elements of this complex texture coher. While the tritone is employed in an essentially abstract manner, Bartók draws attention to its presence in the folk modes in this passage - G-D♭ from C phrygian and C-F# from C lydian (or heptatonia secunda). The complicated bimodal chromaticism in Ex.71 creates the impression of chaos, heightened by the appearance of the dramatic, chromatic-moving m.9s on the violin which seems unrelated to anything else (although it could be heard as a development on the m.9s and M.7s in bb.2-1 S).

As we have seen already, Bartók employs so-called 'alpha' formations in these movements. Being based on pentatonic intervals, these 'alpha' formations can be said to derive indirectly from folk modality. In theme 1 of the first movement, the derivation is explicit; the pentatonic-based melody is 'mistuned' and outlines a 'gamma' formation that comprises two m.3s separated by a P.4 (i.e. the motif). Therefore, the developments of this
idea have a modal basis. Two such developments appear in Exs.50b and 51. 'Alpha' formations are to be found in less obvious guises, such as the piano's chordal gesture in bb.1-4 (and elsewhere; see Ex.60). Related to the 'gamma' formation are the occurrences of major/minor chords in root position which feature in theme 4 and at the beginning of the development section (see Exs.50, 68).

It may seem surprising in the context of these harmonically and tonally adventurous two movements that conventional triadic formations are employed so often. As we saw earlier in the chapter, Bartók regarded the use of such triads as permissible and desirable but as long as their use was "not too frequent". Nonetheless, there are several passages containing triads. We saw a prominent example of this from the second movement, in Ex.70. In the recapitulation of this movement, conventional progressions as well as triads are employed, the 'simple' harmonisation creating the illusion of a folk music arrangement and thereby heightening the folkiness of the melodic line.43 Triadic structures occur less frequently in the first movement. In the recapitulation of theme 2 bb.4-9, triads in first inversion are employed as an interesting harmonic variation on the original version (in bb.5ff). As usual, the melodic line avoids duplicating pitches in the harmony, undermining the possible tonal effect of the harmony:

Ex.72: VS1, I, violin and piano, reduction, bb.4-9.

In neither of these movements does folk music influence the harmony to a significant degree. The composer is more concerned with exploring "...a previously undreamed of wealth of transitory nuances", ordered by various compositional techniques such as voice-leading and intervallic development. The independence of melody from harmony in both pitch and material makes these movements difficult to analyse satisfactorily. When describing the workings of atonal music in 1920, Bartók wrote, "The force of the content, hard to express in words; the freshness of - making use of Schoenberg's expression - the 'first inspiration'; the harmony of the voice-leading: these three factors yield the work of art." We can do no better than consider the first and second movements of VSl from this point of view. The analysis of part of the development section which follows is an attempt to adopt Bartók's viewpoint to an essentially abstract series of passages. While this has no relevance as far as the influence of folk music is concerned, it attempts to demonstrate the way in which Bartók sustains a melodic and harmonic flow in a virtually atonal texture. In thematic terms this extract can be divided into three sections: the first involves the development of the motif in combination with the piano's chordal gesture, both elements belonging to theme 1, the second is a development of theme 5 (beginning at \[ I \]), and the third is a climactic outburst (\[ II \] ff) that grows from the previous material without having specific connections with a particular theme. The varied recapitulation begins at \[ J \] . Two basic chords, labelled \( x \) and \( y \) are manipulated in various ways at the start of the extract; these chords are presented prior to the analysis. (The underlying 'alpha' structure of these chords is not presented in the analysis below, so as to avoid interfering with the intervallic argument.) \( C \) is pitch-class 0, \( C^\# = 1, D = 2, \) etc. In the analysis, open-headed notes represent the piano's material and closed-headed notes, the violin's material. (Rhythm is omitted.) Other symbols are:

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44 BBE, p.456.
x' = x is varied, x'' = x is further varied, etc.

inv. = 'inverted'

dim. = 'diminished'
Ex. 73: VS1, I, analysis of b.5 to b.1.
The indirect influence of folk music on the long-distance tonal level was discussed with regard to the third movement. The bimodal combination of C# (harmony) and B (melody) at the beginning relates to the 'consonant', modal seventh from Hungarian pentatonicism, and these two centres become prominent tonal areas in that movement. There are two questions we must ask at this point. First, is there also a link between folk modality and long-distance tonality in the first and second movements? And second, do the tonal schemes in these movements relate to that of the third movement, tying together as a unified whole? In answering these questions, it is useful to refer to a basic tonal analysis of VSl made by Somfai in his Grove Dictionary entry on Bartók. The analysis is so pithy it can be quoted in full, along with three musical examples:

Referring to this period in his American lectures of winter 1927-8, Bartók himself said: 'There was a time when I thought I was approaching a species of twelve-tone music. Yet even in works of that period the absolute tonal foundation is unmistakable'. A good example of a 'tonal foundation' organized with typical Bartókian logic, despite apparent looseness, is provided by the Violin Sonata no.1 (1921), which he described as 'in C#'. The first movement begins with a seemingly polytonal opposition between C# and C, from which A minor emerges to temporary dominance at the end of the movement, reaching this position through textural means as the violin melody comes to the fore (see ex.11a). The second movement is less ambiguously centred on C (minor), even when two more levels are added simultaneously to the main level of A-C-F♯-(E♭) (see ex.11b). The third movement has at its core material of an instrumental folkdance character, and is therefore more vigorously tonal, remaining so where the violin's main theme in 'heptatonia secunda' on B is in dissonant opposition with the C# tonality of the piano. ('Heptatonia secunda' is the term introduced by Lajos Bárdos to designate the scale whose intervals are successively two, one, two, one, two, and two semitones; its various transpositions and their derivatives are related to certain features of Romanian and Arab folk music.) The sonata's final chord, with its consistent acoustic 7th and major and minor 3rds, has a definite, pure Bartókian C# tonality (see ex.11c).

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First, it should be pointed out that Somfai adopts Lendvai's 'axis' system of tonality to assist his interpretation. Tonal centres a m.3 apart are based on the same 'axis', the tonic 'axis' of VS1 being C#-E-G-A#, the dominant 'axis' being G#-B-D-F and the subdominant 'axis' being F#-A-C-D#. Therefore, although the piano's harmony at the end of the first movement is on B, this is interpreted as having a tonic meaning, being on the tonic 'axis' (hence the expression in Somfai's analysis, "diffused C# axis etc."). Likewise, the piano's chord at the end of the second movement is on F#, the violin melody on C, and together they outline the tonic 'axis' of the movement, C-D#-F#-A (the subdominant 'axis' in the context of the whole sonata), with C being the overall tonic.

While this interpretation highlights several significant tonal relationships in VS1, it also raises a problem which was discussed in the 'Review of Literature'. Lendvai's 'axis' system is based on the interaction of diatonic triads and triadic formations. Although the extracts shown in the example above do show triadic features, much of the harmony in the rest of the movements does not, as we have seen in this chapter. To be sure, there are several passages in the third movement where 'alpha' harmony (based on triadic formations) dominates and an 'axis' interpretation is valid. But if there is no consistent pattern of 'axis' harmony and tonality throughout VS1 (and there is not) then it is questionable whether Somfai's long-distance tonal analysis can be endorsed.

Another unsatisfactory aspect of this analysis is the description of the opening violin melody in the first movement being based on the E-C-A-F# (or subdominant) 'axis'. As we have seen, the melody eventually settles onto D having outlined the pentatonic seventh-chord, D-F-A-C. Thus, the overall theme is bimodal between C# and D rather than C# and C#. Having said this, it is clear that the initial clash between C# and C# is deliberately echoed at the end of the movement, transposed down a m.3 to become B/A. Moreover, the C#/C# clash returns at the end of the second movement, once again between the melody and harmony, but in the context of F# tonality. This clash between melody and harmony is

47 For a description of Lendvai's 'axis' system, see 'Review of Literature', pp.45-7.
'resolved' to C#/$B^\natural$ in the finale. In this way, the 'mistuned' diminished octave becomes a modal minor seventh:

Ex.74: Intervallic relationship between movements 1, 2 and 3 in VSI.

This intervallic argument provides another reason as to why Bartók opened the third movement with the C#/B bimodality.

Somfai's analysis shows the connection in the violin part between the end of the first movement and the beginning of the second, where the A modality is carried over. In Ex.56 of the present chapter, a further connection was made between the pitch content of the piano in the final bar of the first movement and that of the violin in the opening three bars of the second movement. There does not appear to be a significant connection between the second and third movements, however, although there is a certain harmonic connection as shown below:
Ex.75: Harmonic link between movements 2 and 3 in VS1.

We can also make a long-range connection between the final chord of the second movement and the final, 'resolved' chord of the third movement. The former acts as a sort of subdominant to the tonic:

Ex.76: Long-range tonal connection between the ends of the second and third movements in VS1.

The linking together of movements is a device we encountered in *Contrasts*. However, in *Contrasts* it is principally the tritone that makes the connection and it is this interval that pervades the entire work. There is no such intervallic connection between movements in VS1.

In the first movement of VS1, it is simpler to describe the overall tonal scheme as follows. The tonic is C# (appearing at the beginning and the start of the recapitulation) but this sinks to B♭ at the end, signifying a deliberate absence of resolution. This drop of a m.3 matches the prominence of this interval in both the melody and harmony of this movement. As the m.3 does occur within modal/pentatonic contexts (in themes 1 and 4), it is possible to

48 See ch.6, pp.421-22.
make a connection between the overall tonal progression and folk modality. However, this connection is not at all obvious, and may not have been consciously intended by Bartók.

Somfai's 'axis' analysis seems to have more relevance in the second movement, where the various 'poles' and 'counterpoles' are particularly well defined. Without referring to 'axis' tonality, however, the following observations can be made:

1. The opening violin melody begins on A and ends on F#, together with the piano's C (C overall).

2. The first section ends with the violin on C, the piano on F# (F# overall); this relationship is carried over into the middle section.

3. The recapitulation begins with the violin on A, piano on F# (but this shifts immediately).

4. At the end of the movement, the violin is on C, the piano on F# (as at the end of the first section; F# overall).

As happens in the first movement, the tonality of the beginning is not maintained at the end. It is notable that the two instruments 'swap' tonalities, the violin starting on F# and ending on C, and the piano doing the reverse. The tritone acts as a unifying agent in this movement as we saw earlier, and this applies at the tonal level also. It originates from the lydian modality of the opening violin melody. Consequently, we can make a connection between folk modality and tonality in this movement. This feature is, again, hidden to a large extent in the abstract nature of the general pitch content, unlike the prominence of intervallic relationships in *Contrasts*.

To summarise, it is possible to find a link between folk modality and the tonal scheme of movements 1 and 2, but the link is tenuous and not nearly as explicitly stated as in the other works under study. There are also links between the movements with a system of polymodal relationships present. It is a feature of *VS1* that movements 1 and 2 do not end on the same tonal centre as they begin (even if the same tonal 'axis' is maintained).
SUMMARY OF CHAPTERS 5, 6, 7

Before continuing onto a discussion of rhythmic and formal aspects, a brief summary of Chapters 5, 6 and 7 is in order at this point. In the process of summarising the main features of pitch generation, several similarities and differences between the works under study are to be noted. From such a comparison, we can make some conclusions about Bartók's stylistic development, especially in terms of the folk music influence.

Perhaps the most significant difference between VSl and the other two works is the distance between the 'abstract' and the 'folk-like' elements. As we have seen, there is a stylistic dichotomy in VSl which is most keenly felt in the finale where direct folk music imitations mingle with completely abstract sections. The reason for the dichotomy lies in the extremity of Bartók's harmonic language which verges on atonality. The vast new reservoir of harmonic sonorities which Bartók was exploring at this time is not completely compatible with the quasi-folk melodies or ideas. The modality of the quasi-folk material does not seem to permeate Bartók's normal harmonic language to the same extent as in the other works and consequently they occasionally stand out as Eastern exotics rather than being thoroughly integrated into the music. The synthesis between folk and non-folk resources was fully achieved only when Bartók simplified his style, concentrated on economy of means and aimed for a closer-knit relationship between melody and harmony. This change can be observed in PS. Above all, the intervallic argument in this work is more clearly presented than in VSl, with the projection of characteristic modal intervals from quasi-folk material onto all aspects of the pitch organisation. The gap between folk-like passages and abstract ones is bridged so that in the development section of the first movement, for instance, there is no stylistic 'hiccup' after the five folk-like themes preceding it. Perhaps we can partly attribute this to the years Bartók spent following the First World War analysing and classifying his folk material, becoming more familiar than ever with its
characteristics, and ultimately absorbing this ingrained knowledge into his own creative writing.

By the time of composing *Contrasts*, the absorption process was automatic. However, this work includes more direct folk influences than other works from this time because of its associations with the *verbunkos* (of the folk-based variety) and the two *Rhapsodies* for violin of 1928 (which use authentic folk items). At the same time, there are other non-folk influences present, and the harmonic idiom seems more closely connected with the Western classical tradition than in *PS*. Diatonic, triadic formations are more prominent, although this is not incompatible with Eastern folk music as we have seen.

If *VSl* exemplifies the duality of folk and non-folk elements in terms of pitch and *PS* exemplifies the synthesis of these elements, then *Contrasts* shows Bartók remoulding this synthesis to bring about changes in his style. The willingness to change reflects Bartók's attitude; two years before his death, he wrote, "...even now I would prefer to try new ways and means [of composing] instead of deducing theories."\(^{49}\) To some extent, this could be seen as one of the qualities that makes Bartók a great composer.\(^{50}\)

Changeability is also a feature of the folk music which Bartók so closely associated with. It leads us to one of the main features which the works under study have in common; variation. This aspect can be observed at all levels of pitch organisation. Without an awareness of this, analysis of melody, harmony and tonality can become stuck on seemingly inexplicable details in the score. The extent of variation and its success in a work may differ; as we saw in Chapter 7, the variation of thematic ideas in the finale of *VSI* does not achieve its purpose as well as in the finales of the other works under study.

There are many other features of pitch organisation in common in the works under study: modality and pentatonicism, bimodality and bimodal chromaticism, use of the *heptatonia secunda* in 'acoustic' and other forms, use of non-diatonic scales from folk music, chromatic narrowing of diatonic melody (not in *PS*, however), 'mistuning' of

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\(^{49}\) *BBE*, 'Harvard Lectures', III, 1943.

\(^{50}\) This is the opinion of Malcolm Gillies; see "Bartók's Notation: Tonality and Modality", *Tempo* no.145, 1983, p.7.
diatonic intervals and progressions, derivation of abstract scales from folk modes, the
derivation of harmony from melody, harmonic staticism, the unification of melodic material
through intervallic argument, and the relationship of tonality to characteristic folk intervals.
Examples of symmetrical pitch organisation were also seen in all three works. However, this
device was not specifically applied to characteristic folk intervals with the exception of the
theme from *Contrasts*, II. It is more prevalent in *VS1* where it is associated with abstract
pitch material. One manifestation of Bartók's symmetrical thinking is the 'distance' models
(1:2, 1:3 and 1:5), which also assume an Eastern flavour in certain contexts. The tendency
to avoid pitch doublings is another abstract device that occurs in all the works under study
but, again, it is most prominent in *VS1*, where melody and accompaniment lead a
particularly independent existence.
At various stages in Part One we observed direct rhythmic influences of folk music in the works under study. There were Hungarian 'dotted' rhythms in *Contrasts*, I, and VS1, II and III, Bulgarian rhythm in *Contrasts*, III, 'shifted' rhythm, off-beat accents, and other features related to vocal and instrumental imitations. Other rhythmic devices or characteristics appear to have a basis in folk music and yet, cannot be described as direct folk influences because they do not necessarily evoke a folk flavour. Often, Bartók adopts a rhythmic principle from folk music and absorbs it into his style so that, depending on the context, the rhythmic principle manifests itself in an abstract way. We have already seen an example of this, in the rondo theme from *PS*, I, where the asymmetrical rhythms, possibly derived from Rumanian *colinde* rhythms, help to distance the theme from its strong roots in Hungarian folk song. The dividing line between some of the rhythmic features seen in Part One and those labelled 'indirect' is not always clear, however. Determining the level of influence frequently depends on the function of particular rhythmic features; if they are designed to create a completely abstract effect or even distance a folk-like theme then they can, in all probability, be labelled 'indirect' in terms of their folk influence. The two chief rhythmic principles to be dealt with in this chapter concern the use of asymmetrical rhythm and rhythmic variation. For the sake of completeness, some non-folk rhythmic influences are also discussed.

In an essay entitled "Between Rubato and Rigid Rhythm: A Particular Type of Rhythmical Asymmetry as Reflected in Bartók's Writings on Folk Music", Judit Frigyesi examines the basic rhythmic characteristics Bartók discovered in Hungarian, Rumanian and
Slovakian folk music. As the author shows, Bartók spent much time and energy finding adequate ways of notating the rhythms in folk music which fluctuated in tempi between two broad types, rubato and giusto (strict time). He also traced an evolution of rhythm in folk music, in the Introduction to HFS:

(1) **Tempo giusto** (strict) rhythm consisting chiefly of equal values. It is likely that the earliest music arose in connexion with rhythmical motions of the human body (work, dancing). No complicated rhythmical pattern could evolve out of these primitive elements.

(2) **Parlando-rubato** rhythm. In proportion as tunes gradually became independent of the body's motions, the dance-like rigour of the original terse rhythm relaxed. The rhythm of the tunes was then bound to adapt itself to the rhythm of the words; and performers were enabled to emphasize and prolong single notes. This stage of evolution is illustrated by the old parlando-rubato tunes of the Hungarians...Slovaks and Rumanians.

(3) **Tempo giusto** rhythm, evolved out of the parlando-rubato method of performance. Many rhythmic patterns originating in this parlando-rubato method of performance may have become set quantities, even in parlando-rubato performance. Supposing that a tune of this kind comes to be performed tempo giusto (say, for the purposes of dancing), it will retain the complicated rhythmic patterns created by rubato performance. And the tempo giusto rhythm marking this third stage of evolution will be far more complex than the original tempo giusto rhythm, that which characterized the first stage.

It is in the third stage that we find asymmetrical rhythms in strict time. Their development can be seen by comparing the following two Hungarian melodies: the first is a representative of the parlando-rubato style in which a basic pattern is varied by the prolongation of certain notes, and the second in tempo giusto in which the flexible rhythms of parlando-rubato songs are solidified, giving rise to asymmetrical rhythm:

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2 *HFS*, p.9 (quoted, in part, in Frigyesi's essay).
Ex.1: Two Hungarian folk songs from Bartók's collection: (a) *HFS* no.10, (b) quoted by Bartók in his essay, "Hungarian Peasant Music"(1933), Ex.6, *BBE*, p.88.

Asymmetrical metres, such as the above, are not very common in Hungarian folk song. They are more characteristic of Rumanian folk music, especially *colinde*, as we have already seen. That Bartók was interested in these metres is beyond doubt; a proof is provided by the following quotation in which he describes the derivation of asymmetrical metre from symmetrical ones:

...we may have - though not frequently - 5/8 time or 7/8 time in our melody. The difference between them and the regular 2/4 is not essential; it is rather a derivative difference. In fact, 5/8 can be explained as a doubling of one of the eighths in a 2/4 measure, and 7/8 as a doubling of one of the eighths in a 3/4 measure. These strange measures attracted me to a high degree, and their influence can be discovered in many places in my original works.

Bartók's interest in asymmetrical metre is evident in his folk music arrangements. Despite the infrequent occurrence of Hungarian folk tunes with asymmetrical metres, he sets several such tunes, including the one in Ex.1b. Twelve out of twenty of the piano series, *Colinde*, use asymmetrical metres and metric changes which represents a much higher proportion than the number of *colinde* with asymmetrical or changing metres in Bartók's collection. This

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3 See ch.1, p.83.
5 See Bartók's *Fifteen Hungarian Peasant Songs* (1914-18), no.5.
reinforces the point made in Chapter 1 about Bartók's penchant for choosing unusual folk songs to set. In Bartók's original compositions too, asymmetrical rhythm is a significant stylistic feature, as we shall see.

The rondo theme from *PS*, I, was mentioned at the beginning of this chapter in relation to the use of asymmetrical rhythm. This is a clear case of the changing metres being derived from a single, basic metre, 2/4. In the first episode of this movement, a version of the rondo theme in 2/4 (the 'quasi-folk tune') does occur, as we saw in Chapter 1 (see Ex.7). The changing metres might simply be the result of Bartók attempting to integrate *colinde*-rhythms into the theme. From a broader point of view, however, the rondo theme demonstrates a rhythmic principle found by Bartók in Eastern European folk music, generally, that of asymmetrical or irregular rhythms in *tempo giusto* being based on regular, symmetrical rhythm. Since the end-result is abstract and characteristic of Bartók's style rather than *colinde*, the broader view would seem the better one to hold. (The other versions which extend the rondo theme rhythmically also demonstrate the principle of rhythmic variation.)

The same principle applies to theme 2 of the first movement of *PS*. The 5/8 bars can be viewed as an extension of 2/4, and 3/8 a shortening of 2/4. The 3/4 bar is an extension of b.45 (also a 2/4 bar):7

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6 See ch.1, pp.139. See also Vera Lampert "Bartók's Choice of Themes for Folk Song Arrangement: Some Lessons of the Folk-Music Sources of Bartók's Works", *op. cit.*, p.402.

7 Examples in this chapter which show the rhythm only (as in Ex.2) are designed to highlight particular points about the rhythm in the passage without being hindered by the notation of pitch. The author is aware that there are aspects of the pitch organisation which may affect the rhythm (such as octave doublings) and where necessary, pitch is included.
Ex. 2: PS, I, rhythm of theme 2 compared with rhythm of an hypothetical folk song model.

The same process occurs in the recapitulation of this theme (bb. 155-72), although the more fragmented the melody becomes the more abstract the rhythmic changes become. In theme 4 of the same movement, a 3/8 bar substitutes for a 2/4, as part of the extensive rhythmic variation on this theme (see bb. 88, and 220 in the recapitulation). These examples all come from themes based on quasi-folk melodies, but asymmetrical rhythms also occur in entirely abstract passages, such as the link from the development section to the recapitulation in this movement (bb. 176-87). Furthermore, asymmetrical rhythms are sometimes written within the framework of regular, symmetrical metre. In the finale to Contrasts, the following 'tail-piece' could be written in changing metres which are, again, derivative from more basic metres:
Bartók's maintaining of 2/4 in the above passage is possibly due to performance considerations.

In VS1, III, the varied version of theme 2 is conspicuous for its changing metres. Two possible rhythmic influences on this theme were discussed in Chapter 2: *colinde* rhythm, and the rhythmic irregularities in Rumanian instrumental folk music. While the changing metres could be seen as enhancing the Rumanian character of this theme, the rhythms involved are more complex than any specific folk model Bartók might have been imitating. He adopts the principle of rhythmic asymmetry and freely manipulates his theme, accordingly:

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8 See ch.2, pp.165-7.
9 See ch.1, p.134-6, for a description of the use of Bulgarian rhythm in this section of *Contrasts*.
10 Bartók suspects that Bulgarian rhythm could also be traced back to basic, symmetrical patterns. See Bartók's essay, "The So-called Bulgarian Rhythm", *BBE*. 
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music - in fact, the only feature of Bulgarian folk music which Bartók used. The *tempi* of these asymmetrical rhythms (in strict time) are generally about twice as fast as those in Rumania, Hungary or Czechoslovakia, giving the rhythms a peculiar 'limping' quality which Bartók incorporates into his theme from *Contrasts*. Bartók's asymmetrical metre does not change which is also typical of Bulgarian music. 8+5/8 (13/8) may be more complex than any Bulgarian example but this does not distance the effect. Bartók heightens the effect of this asymmetrical metre in the middle section by avoiding the use of many asymmetrical rhythms in the outer sections. There are only three changes of metre aside from the change in the middle section, all contained in bb. 92-8. While irregular rhythms are used within the regular 2/4 metre (as in Ex.3), there is generally, a tendency towards symmetrical rhythmic patterns, possibly due to the influence of the *verbunkos*, discussed in Chapter 3. Whatever the reason, the function of the asymmetrical rhythm in the middle section is to allude to Bulgarian folk music (in combination with the quasi-Hungarian melodic line).

As we have already seen, Bartók notates asymmetrical rhythms in both changing and regular metres. Which of these he chooses can often depend on the type of texture involved and the relationship between the parts. When one part maintains a steady, regular pulse throughout the texture while the others are rhythmically irregular then the use of a regular metre is more convenient. This type of notation is exemplified in the following:

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11 See ch.1, p.135.
Although the pitch content in this example is directly influenced by folk music (with 'shifted rhythm' and 'stop-gap' motives), the asymmetrical rhythmic patterns are generally more complex and deliberately organised than in possible folk models. These rhythms undoubtedly have a basis in the flexible, improvisational dance melodies of Eastern European instrumental folk music but Bartók is not content merely to reproduce them. As we can see in Ex.5, the regular metre shared by the parts gives way to complex polyrhythms. Synchronisation of beat is re-established at leading into the big cadence at b.4-5. Once again, rhythmic asymmetry stems from a principle in folk music which Bartók integrates into his style.

Another source of asymmetrical rhythm in Bartók's music is Arab folk music, described briefly in the 'Review of Literature'. Reference was made to Arab music in ch. 2, with a specific Arabic item possibly being a model for theme 3 of VS1, III.12 The melody instrument in this item (the rcheita) is accompanied by drums as is the case in many of the items Bartók collected in Biskra. The drum parts are in tempo giusto, even when the melody line is not (as is the case in item no.34). As we can see in Ex.27 from Chapter 2, the
rhythmic patterns produced on the drums are sometimes asymmetrical. In several of the items, there is an irregular alternation of groups of twos and threes:

Nos.34, 38, 40: rhythmic pattern = 3+2+3
No.43: rhythmic pattern = 2+3+3
No.54: rhythmic pattern = 2+3+2+2
No.37: rhythmic pattern = 3+3+2

The beginning of No.37 shows an example of this asymmetrical rhythm, transcribed by Bartók into a regular metre:

Ex.6: Arabic item from Bartók's collection, the drum part only, transcription no.37 from the essay, "A Biskra-vidéki arabok népzenéje" [Folk music of the Arabs from Biskra and surrounding areas].

This type of rhythmic asymmetry occurs occasionally in Bartók's music, again only as an indirect reference. Perhaps the most well-known example comes from the beginning of the finale to String Quartet No.4, where the idiom is vigorous and percussive, and involves free oscillation of twos and threes which is maintained for many bars. In the second statement of the rondo theme in VS1, III, the piano's percussive chords beat out similar asymmetrical rhythms, independent of the violin's melody:
A feature in common with Ex.7 and Bartók's Arab transcription in Ex.6 is the notation of irregular rhythms within a regular metre. There are other instances of this in the works under study: the passage in Ex.5, the final four bars of the violin cadenza in *Contrasts*, III, or the coda to *PS*, I, which contain the characteristic oscillation of twos and threes. In the latter, the pitch content is abstract without a suggestion of Arabic folk influence, but the rhythm indirectly reflects Arabic drumming patterns:
Somfai states that the 3+3+2 rhythm is prominent in several Bartók works, fulfilling the role of a "penultimate, cadential rhythmic speciality" (as did hemiola for the Western composers of previous centuries).\textsuperscript{13}

An even more indirect manifestation of this Arab rhythmic principle occurs in theme 3 of VS1, III, which has Arabic features in the melody line. The alternation of twos and threes is obscured by the complicated polyrhythmic texture. Associations with Arabic drum rhythms are further distanced by the delicate, fleeting nature of this theme:

Ex.9: VS1, III, rhythm of violin and piano,\textsuperscript{12} bb.1-5.

Even before his discovery of Bulgarian rhythm in the 1930s, Bartók used asymmetrical rhythms and metres in very fast, strict tempi. In the example below, from Violin Sonata No.2 (1922), the tempo is actually as quick as Bulgarian items he knew of. (Despite the

\textsuperscript{13} Somfai "Analytical Notes", VI, "Metre-Breaking Rhythmic Patterns (Piano Sonata, Piano Concerto No.1)", \textit{op. cit.}, p.35.
difference in articulation and dynamics, the gesture in the first eight bars below is similar to the one in Ex.7, from VS1.):

Ex.10: *Sonata No.2 for Violin and Piano*, II, reduction, \[35\] bb.1 -11.

Expressed in quavers, the tempo is \( \frac{\text{J}}{4} = 420 \). The Bulgarian rhythm Bartók uses in *Contrasts*, III, (mentioned earlier) is in a slower tempo, \( \frac{\text{J}}{4} = 330 \). Whatever the indirect source is for the asymmetrical rhythms in Ex.10 (and they could be Arabic, with the oscillation of twos and threes), is there a difference between these two types of rhythm in Bartók's music? The answer to this is to be found in the inner constituents of the rhythms. In the example from *Contrasts* and all Bartók's pieces from the 1930s that employ Bulgarian rhythms, there is usually a well-established crotchet-pulse which is periodically dotted. This is maintained for several bars, at least, in an asymmetrical metre, creating the typical limping quality of Bulgarian rhythm:
Ex. 11: Examples of Bartók's use of Bulgarian rhythm in works from the 1930s.

Centrales, III:

Più mosso = 130 (or \( f = 25 \), \( J = 165 \))

String Quartet No. 5, III:

Alla bulgarese (vivace, \( d J = 4 \) or \( J = 44 \))

Mikrokosmos No. 149 (from "Six Dances in Bulgarian Rhythm"):  

The asymmetrical rhythms and metres in equally fast tempi which appear in Bartók's works prior to his Bulgarian discovery are usually 'counted out' in quavers (or whatever the main unit of pulse is) in one of the main parts, as we can see in Exs.7-10 and also in the following passage, from "Tambourine" (the eighth of the piano series, Nine Little Piano Pieces):
Rhythms such as these are more definitely articulated than the Bulgarian types, which are usually elusive in character. Bulgarian metres in Bartók's music also tend to be longer and more complex in construction than other asymmetric types.

To summarise, Bartók's asymmetrical rhythms in strict and generally fast tempi have three indirect sources in folk music: first, Rumanian, Hungarian and Slovakian tunes in tempo giusto which maintain the rhythmic irregularities from parlando-rubato tunes; second, Rumanian and Hungarian instrumental dance music with flexible rhythmic patterns over a steady pulse; and third, Arab melodies with drums accompanying, involving the oscillation of groups of twos and threes. Bulgarian rhythm is adopted in Bartók's music as the special feature of Bulgarian folk music and is, therefore, a more direct influence. These sources are not necessarily the only influences on Bartók's asymmetrical rhythms, as we shall see later.

It must be added here that when Bartók wrote 'Tempo giusto' at the top of a folk transcription, this did not mean that the pulse remained rigidly unchanged throughout the item. As we can tell from listening to folk items, fluctuations in the beat are common. This feature influenced Bartók's own playing of folk music arrangements. In the recording of him performing some of the Fifteen Hungarian Peasant Tunes, for instance, the old dance tunes in tempo giusto display considerable flexibility in the beat. In no.8, the fluctuations are so great as to suggest a different rhythm altogether, as Ex.13 shows:

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14 The rhythmic character varies, of course, to suit Bartók's compositional needs. In the sixth "Bulgarian Dance" from Mikrokosmos( no.153) for instance, the Bulgarian metre 3+3+2/8 is vigorously 'counted out' in the bass ostinati. It is notable that this particular asymmetrical metre is not an authentic Bulgarian one, but rather Bartók's invention (although undoubtedly influenced indirectly by his folk music experience).
Ex. 13: Comparison of rhythm between the score of *Fifteen Hungarian Peasant Tunes* no. 8 and a transcription of Bartók's performance of this piece (first verse only), from *Bartók at the piano*.

The same applies to Bartók's abstract music in strict time. Somfai writes, "One of the great things about Bartók's recordings is precisely the manifold character of the *tempo giusto* ...". Therefore, this factor should be taken into account when examining the rhythmic characteristics of the dance-like finales from the works under study.

Thus far, we have considered asymmetrical rhythm in passages in quick and strict *tempi*. The slow sections of the works under study also feature asymmetrical rhythms but it is more difficult to trace their source in folk music. In *Contrasts*, II, for instance, the opening melody (and its mirror-image) imitates in form and contour a certain genre of Hungarian folk song. Rhythmically, however, it seems distant from the slow, *parlando-rubato* tunes of Hungary. The simple rhythmic units (mostly crotchets and minims) give the melody an almost hymn-like mood, akin to the melodies from the slow movements of *Out of Doors* and *Sonata for Two Pianos and Percussion*. Changing metres result from the varying of the number of beats per bar:

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15 László Somfai, 'Notes' to *Bartók at the Piano*, p.29.
 Likewise, the slow movement of PS has irregular rhythmic patterns and asymmetrical metres without reference to characteristics of folk rhythm. As we can see, there is no rubato marking:

Ex.15: PS, II, bb.15-22.

This movement is deliberately limited in rhythmic resources (perhaps as a contrast to the first and third movements), with bb.10-12 only, providing any relief from the relentless crotchet and minim movement. By economising on the type of rhythmic units used in these previous examples, Bartók shifts the emphasis away from the rhythmic patterns to the length of phrases. The phrase-lengths tend to be asymmetrical, as we can see in Exs.14 and 15.

In the parlando-rubato songs which Bartók collected in Hungary, Rumania and Slovakia, he discovered variation and irregularity in phrase-length, also. As Bartók says in the second part of the quotation at the beginning of this chapter, the rhythm of these songs varies according to the emphasis placed on particular words which results in a flexibility in the number of beats per phrase:18

18 Other examples of this type of rhythmic flexibility in folk music can be seen in ch.1, Ex.20a, pp.91, and ch.5, p.286.
Ex.16: Hungarian folk song, HFS no.14.

Ignoring the changes in rhythm due to the parlando performance, the number of beats per bar enumerate, as follows:

- **line one:** 16 x \( \frac{3}{4} \)
  - bar 1: 6 x \( \frac{3}{4} \)
  - bar 2: 10 x \( \frac{3}{4} \)

- **line two:** 16 x \( \frac{3}{4} \)
  - bar 3: 4 x \( \frac{3}{4} \)
  - bar 4: 12 x \( \frac{3}{4} \)

- **line three:** 17 x \( \frac{3}{4} \)
  - bar 5: 7x \( \frac{3}{4} \)
  - bar 6: 10x \( \frac{3}{4} \)

- **line four:** 21 x \( \frac{3}{4} \)
  - bar 7: 7x \( \frac{3}{4} \)
  - bar 8: 14 x \( \frac{3}{4} \)

Ex.16 has no time signature. This was common in Bartók's transcriptions of parlando-rubato songs where a steady pulse is generally absent. (Songs marked tempo giusto normally have a time signature.)

It is possible to make a parallel between the irregular phrase-length of folk songs in a parlando style and Bartók's asymmetrical phrasing in his slow movements. In passages such as those in Exs.14 and 15, it is necessary for him to use time signatures for the convenience of the performers. The significance of the metres and bar-lines is superseded by the melodic and rhythmic sense of the phrases. This parallel is an indirect one, however, because the parlando-rubato style of folk song is not adopted by the

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19 See László Somfai, 'Notes' to *Hungarian Folk Music Gramophone Records with Béla Bartók's Transcriptions*, pp.23-4.
Irregular phrase-length or periodicity in folk music of this kind is a principle which Bartók applies to his own melodic style.

The **rubato** style of folk music is imitated in Bartók's original compositions on special occasions. We saw an example in **VS1, II**, where the violin richly decorates the melody line. While Bartók's tempo indications are very precise in this work, in the extract mentioned above he writes, **poco rubato** and, following a **tempo giusto**, another **rubato**. This marking is designed to bring the rhythm of the melody line closer to the rhythmic style of authentic instrumental folk music, suggesting a direct influence.

The principle of variation in Bartók's music has been documented in previous chapters. Variation of rhythm was characteristic of folk music Bartók heard. In 1933, he wrote, "Peasant melody is very elastic material; ...When one hears any given melody sung several times in succession by the same person, one will generally notice certain slight alterations in the rhythm...". This type of rhythmic variation can be discerned in passages such as the middle section of **Contrasts**, I, where each 'verse' of the quasi-folk tune is slightly altered in rhythm. We saw in Chapter 1 how, under the influence of his ethnomusicological experiences, Bartók constantly varies the rhythmic structure of the quasi-folk tune. Despite the direct links between the rondo theme and Hungarian folk song, the rhythmic influence is indirect because the types of rhythmic alterations which occur are not characteristic of folk variants. Another example of this rhythmic variation principle can be seen in the recapitulation of the main theme in **Music for Strings, Percussion and Celesta**, II; the original theme, in 2/4, is transformed into changing metres (2/4, 3/8, 5/8 etc.). This is unlikely to be direct reference to **colinde** rhythm, as Breuer suggests, but rather an abstract variation based on a folk music precedent, learned many years earlier by Bartók.

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20 See ch.2, pp.146-7, Ex.3.
21 The same might be said of the first and second variations of **Violin Concerto 1937-38**, II, where the violin's melodic line is also decorated and marked **poco rubato**.
22 See, for example, ch.1, pp.88-9.
24 See János Breuer "Kolinda Rhythm in the Music of Bartók", *op. cit.*
Rhythmic variation, like any type of variation in Bartók's music, is used to sustain interest in passages which contain repetitive material. In the present chapter, we have already referred to themes 2 and 4 of PS, I, with their use of asymmetrical rhythm. Theme 4 contains two 'verses' of an imaginary folk tune; the second of these exemplifies well Bartók's tendency to vary the rhythm and, on this occasion, it is achieved mainly without the assistance of changing metre:

Ex.17: PS, I, rhythm of theme 4, 'verses' 1 and 2.

The extension of one 'line' of the imaginary song into several phrases of varying lengths and independent of the metre is an essentially Western technique, although it has precedent in the 'shifted rhythm' of Eastern European folk music. In this way, it is a little like the rhythmic variation applied to the quasi-folk tune in the peasant violin episode in PS, III. The end result is an improvisatory version of the original tune, perhaps representing a peasant instrumental interpretation. In any case, the method of variation is too sophisticated to be a direct reference to folk music; it is only really the principle of variation that is involved. A similar example of rhythmic variation occurs in two passages from Contrasts, the latter of which was shown in Ex.3, as an example of asymmetrical rhythm. The first time this idea appears, it is about half the size of the second appearance and has slightly different patterns:
Ex. 18: *Contrasts*, III, comparison of bb.71-4 with bb.81-9.

We have also seen the way in which Bartók varies the length of phrases in slow music, emulating the flexibility he encountered in *parlando-rubato* folk song. He was aware of such improvisational qualities in folk music as can be proved by his meticulous notation of all peasant performance details. This is especially true from the rhythmic point of view. The ever-changing rhythmic character of folk music on the smallest scale is something that we can see reflected in Bartók's compositions. It is rarely a direct influence - it would not be practical for concert performers (especially in ensembles) to grapple with the sorts of rhythmic intricacies Bartók transcribed from folk music.\(^{25}\) (Bartók's revised transcriptions, as seen in *RFM 1* and *2*, are certainly not designed to be performed from!) Something of the rhythmic flexibility and variety in folk music is integrated into the opening theme of *VS1*, where the melody line is free from direct folk influences:

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\(^{25}\) There are passages, however, where Bartók approaches the rhythmic complexity of his folk transcriptions of the 1930s. One example of this is the imitation of the Rumanian *hora lunga* at the beginning of *Violin Sonata No.2*. 
When the bars leading into theme 2 of this movement are recapitulated, the rhythm is varied into groupings of three, creating an improvisational effect:

Ex.20: VS1, I. rhythm of violin, \( \frac{22}{4} \) bb.1-4.

A similar 'lead-in' occurs in the first movement of *Contrasts*, where the regular groupings of four semiquavers to a beat are altered, as follows:

Ex.21: *Contrasts*, I, clarinet, bb.43-5.

Rhythmic variety such as in the above, is common in this movement; as we saw in Chapter 3, Bartók employs a wide range of rhythmic patterns in imitation of the characteristic *verbunkos* performance.
As well as repetitions of ideas or themes, the limbs of sequences in Bartók's music are prone to small-scale variation. In the second movement of *Contrasts*, each of the piano's four 'chromatic' versions of one of the main melody lines are varied rhythmically (as well as melodically - see bb. 30, 32, 41 and 42-43). The clarinet and violin lines in this section are, likewise, sequential and involve subtle alterations:

Ex. 22: *Contrasts*, II, clarinet and violin, bb.33-4 and 40-5.

Bartók's principle of rhythmic variation is of great importance in more contrapuntal genres and mediums, such as the string quartets. The following passages from *String Quartets No.4* and *No.5* feature the use of rhythmically independent parts within a common tempo. In the first extract, 4/4 is used only for performance synchronization - each part has its own free and constantly varying rhythm, combining to give an improvisational effect. In the second extract, Bartók indicates the polyrhythmic divisions within the bar by dotted barlines, a device not uncommon in his music (see Ex.18 for another instance of this feature):
Ex. 23: (a) *String Quartet No. 4*, I, bb. 14-24.

(b) *String Quartet No. 5*, I, bb. 25-34
The most complex of rhythmic patterns and combinations in the quartets can usually be traced back to Bartók's tendency to always vary his material, a tendency chiefly learned from folk music.

In an essay entitled "Metre-Breaking Rhythmic Patterns" (with specific reference to the PS and Piano Concerto No.1), Somfai suggests that the rhythm of Bartók's music is a "homophonic rhythm", that it runs basically in a straightforward line" and is "directional and surprisingly simple".

In spite of the multitude of asymmetrical devices encountered in this chapter - the changing metres, shifting accents within the bar, asymmetrical metres and so on - Bartók's rhythm is infrequently polyphonic; that is, the beat of the bar is rarely obscured by conflicting accents from the combination of different parts. This is certainly true in the works under study. There are moments of polyphonic rhythmic flux, such as bb.21-6 of Contrasts, I, but these are rare indeed. Movements such as PS, I are almost machine-like in their persistent, unambiguous pulse. It is worthwhile speculating whether or not this general characteristic of Bartók's rhythm might be attributable to his experience of folk music. As we know, the folk music Bartók came into contact with was either monophonic

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or homophonic, although the Eastern Central-European bagpipes were capable of a limited type of polyphony due to the presence of the middle-pipe (which could play the tonic and dominant pitches, below the melody). There was no polyphony of the type in the Western tradition, where the beat of the parts could diverge and destroy the overall sense of regular pulse. As was the case with Bartók's tendency towards writing static harmonies, it would seem conceivable that the general nature of folk music could have unconsciously influenced his thinking through years of constant exposure to it. This would seem to be supported by Bartók's music.

No study of Bartók's rhythm is complete without reference to the influences of other contemporary music upon him. While this is not the place to enter into a detailed discussion, a few general points should be made.

The use of asymmetrical rhythms and metres (in both giusto and rubato tempi) was a characteristic of several composers contemporary to Bartók, especially the Russian, Igor Stravinsky. As we have already seen, Bartók knew several of Stravinsky's works from his 'Russian' period (about 1909-18) by the time he came to write VS1, and before. His ballet, The Miraculous Mandarin (1918), shows the influence of Stravinsky's percussive 'motor rhythms' (pulsating ostinati) and complex polyrhythms (which are so much a feature of the Russian composer's Rite of Spring (1912). The 'motor rhythm' and syncopation of the passage in Ex. 7 show that this influence was probably still present three years later in VS1, although we have to remember that Bartók, himself, was a pioneer in the use of such rhythm - Allegro Barbaro (1911) is a proof of this. As to the use of asymmetrical rhythms and changing metres, Bartók notes, later in life, that this was not necessarily due to folk music: "It seems that the trend toward frequent changes of measure is one of the internationally-characteristic features of the twentieth century". The extraordinary metric changes in "The Sacrifice" from Stravinsky's Rite of Spring, for instance, are certainly not directly influenced by folk music, although the stimulus for such rhythmic irregularity might have originally come from this source. Likewise, the flexibility of rhythm in the works of

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27 See RFM 1, pp.19-20.
Identifying possible rhythmic influences in Bartók's music depends upon context; in works such as PS, where the melodic and harmonic style seem closer to folk music, we are safer in assuming various rhythmic correlations, whereas in works like VS1, the rhythmic influences are often more ambiguous. In the passage in Ex.7, for instance, do we attribute the rhythmic influence to Bartók's experience of Arabic drumming or to his knowledge of Stravinsky? There is no way of answering this, unless sketches of the composition reveal some clue.

A further, well-established source of inspiration in VS1 is the music of Szymanowski; we saw this with regard to melody and harmony in Chapter 7. The influence is perhaps even more pronounced in terms of rhythm. Szymanowski's works from about 1915 onward display a great rhythmic flexibility (even more so than the 'expressionist' composers), as can be seen in the following extract from a piece which Bartók knew prior to composing VS1:


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29 Breuer makes the distinction between the type of asymmetrical rhythm Bartók found (and was subsequently influenced by) in the works of 'expressionist' composers and the types he found in folk music. See Breuer, op. cit., p.44.

30 See also ch.7, Ex.6, from the same work of Szymanowski's.
Szymanowski's rhythmic style is akin to the ebb-and-flow, *rubato* style of the nineteenth century romanticists but is more complex and intricate. The regular pulse is constantly obscured by complicated rhythmic patterns, irregular phrase-lengths and many fluctuations of tempo. All these features are present in the first and second movements of *VS1*, embuing the music with a romantic feel, despite the highly unconventional pitch content. In the first movement, alone, there are over forty changes in tempo, and inbetween these are many *accelerandi* and *ritardandi*. The rhythmic complexities can be seen in several examples from Chapter 7.31 This almost ultra-Romantic rhythmic style helps to convey emotional, restless moods and a sense of improvisation (of an art music type). It contrasts sharply with the types of asymmetrical rhythm and rhythmic variety from folk music which Bartók integrates in various passages in the finale of this work.

Aside from contemporary music influences, there are naturally, many aspects of Bartók's rhythmic language retained from his basic academic training and general musical knowledge. The characteristic tempo, rhythm and metre of the waltz, for instance, appears in several of his works prior to 1925. Theme 2 from *VS1*, I, is an example from the works under study. Perhaps the most well-known of Bartók's 'waltzs' occurs in *The Miraculous*
Mandarin, in the build-up to the 'chase' ([44] bb.5ff). As can be seen in both these examples, the waltz is distorted from its normal elegant, aristocratic setting into something grotesque and tortured, symbolizing a troubled, urban world (as opposed to the utopia of rural life). Bartók's interest in asymmetrical rhythm and rhythmic variation can be seen in works written prior to his discovery of folk music, as Breuer shows. The influence of Brahms, with his tendency to use irregular phrase-lengths and rhythms, was particularly strong on the young Bartók.

Antokoletz demonstrates another significant rhythmic technique (in Bartók's String Quartet No.4, at least) that is academic by nature, namely arithmetic progressions (where a rhythm expands or contracts by a constant amount). These arithmetic progressions emphasize important structural points in the music, points where cadences emerge from a preceding complex of melodic lines. One of the examples Antokoletz gives comes from String Quartet No.4, V, bb.119-50, where a melodic motive appears between reiterated chords and gradually grows until it leads into the cadence of the first section. There are several examples to be found in the works under study, of which the following are a sample:

Ex.25: Examples of arithmetic rhythm in the works under study.

\[\text{Ex.25: Examples of arithmetic rhythm in the works under study.}\]

\[\text{[A] 5} \]

\[\text{[B] P} \text{r} \text{i} \text{v} \text{o, } J_\text{= \text{e} 184}\]

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32 See also Four Orchestral Pieces, op.12, II, although this is possibly too fast to qualify as a waltz.

33 Breuer, op. cit., pp.44-5.

34 Elliott Antokoletz Principles of Pitch Construction in Bartók's Fourth Quartet, Ph.D. diss. (City University of New York, 1975), Ch.VII.
Of the various rhythmic influences on Bartók's music, those originating in folk music remain the strongest and most consistent. This applies at the indirect as well as direct level of influence. The principles of asymmetry and variation are a fundamental aspect of his rhythmic language and provide one of the strongest 'fingerprints' of his style. At the time of writing VS I, Bartók commented upon the "decisive influence" of folk music studies on his composition, due not only to the discovery of previously unknown modes and scales, but also to "...the melodies [which] were full of most free and varied rhythmic phrases and changes of tempi, played both rubato and giusto." From this brief statement, we can see the importance folk rhythmic features had for Bartók. It is because of this that we must attach great significance to the reservoir of rhythm which irrigates the overall Bartók musical resource.

35 "Autobiography" (1921), BBE, p.410.
CHAPTER 9

THE INFLUENCE OF FOLK MUSIC ON FORM IN THE WORKS UNDER STUDY

As we have seen in our analyses of the works under study, Bartók usually structures his musical material in traditional ways, employing ternary form, rondo form, sonata form and sonata-rondo form. These forms are discernible on the surface of the music and yet the details of tonality and so forth do not often comply with the conventions of these forms. We might expect Bartók's use of form to be influenced by non-conventional elements in the same way as were other parameters of his music. Consequently, we might expect his form to be influenced by folk music. Bartók, himself, confirms this expectation when he writes: "Scores of aspects in regard to the influence exerted on us by this [folk] material; for instance, tonality, melody, rhythm, and even structural influence." This has already been shown to be true on the small scale, where themes imitate folk music genres and assume their formal characteristics; for example, the use of the Hungarian form, AAA5A5, in the opening section of Contrasts, II, or the use of the Rumanian instrumental motive form in theme 2 of the finale in the same work. Are the structural characteristics of folk music projected onto Bartók's large scale formal aspects and onto material that is essentially abstract (that is, material that does not directly imitate folk music)? We shall also investigate, in the latter part of the chapter, the possibility of golden section proportions being employed in the works under study.

1 See Appendix 2.
The structure of the slow movement of VS1 has a parallel in folk music. As we saw from Kárpáti's analysis, the overall ternary form can be subdivided as follows:³

**DIAGRAM 1**

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABAB</td>
<td>CDCD</td>
<td>ABAB</td>
</tr>
<tr>
<td>(bb.1-[4])</td>
<td>(4-10)</td>
<td>(10-end)</td>
</tr>
</tbody>
</table>

The asymmetrical structure, ABAB, is found in Hungarian folk song in the Old style, normally as $A^5B^5AB$, where two different lines are transposed down a $P.5$ to make up four lines altogether.⁴ In the first part (x) of the slow movement of VS1, the following pitch relationships exist between the beginnings of each section:

**DIAGRAM 2**

```
<table>
<thead>
<tr>
<th>A (violin on A)</th>
<th>B (piano on C)</th>
<th>A (violin on E)</th>
<th>B (piano on F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b. 1)</td>
<td>(b.3[3])</td>
<td>(2)</td>
<td>(b.3[3])</td>
</tr>
</tbody>
</table>
```

The beginning of each of the piano's sections are a $P.5$ apart and the violin's an augmented fourth, thus creating a close analogy to the Hungarian folk form described above. In the recapitulation, the relationship between the sections is altered:

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³ János Kárpáti, *Bartók kamarazenéje* [Bartók's Chamber Music], p.283.
Once again the analogy can be made, although the transposition of a P.5 is less apparent. In the middle part of this movement, the alternation of two different sections is quite obvious but no tonal analogy exists.

The same structure appears in the development section of the finale. As we saw in Chapter 7, an augmented version of theme 1 alternates with a playful idea that derives from theme 2, creating an ABAB form within this section. The latter half of this form is transposed down a P.4 (or up a P.5), again corresponding to the Hungarian structure:

The long, held notes help to define this tonal structure, while the violin part is independent of it. According to Kárpáti, the recurrence of the 'augmented' theme in\[28\]ff completes a five-part, symmetrical structure (ABABA).\[5\] However, at this point both A and B are combined, providing the material for a developmental passage that continues through to\[31\], and, in hindsight, is separate in the musical flow from the structure outlined in Diagram 4.

These are the only instances in the works under study of a specific folk music form being projected onto large-scale structures that do not incorporate direct folk music

influences (with one exception, as we shall see later). However, the form of the finale of *PS* has something in common with the performance format of a certain type of folk music. When comparing the old and new styles of Hungarian folk song, Kodály makes the following comment, in passing: "It is very rare for a [new style] tune to be sung once only: once begun, it is repeated several times at a stretch, though not necessarily in the old style of Hungarian merrymaking, when a single song was played and sung the whole night long."

Perhaps Bartók had this type of old style 'merrymaking' in mind when writing the movement mentioned above. It is based on a single quasi-folk tune, as we saw in Chapter 5, which is played fifteen times, imitating various vocal and instrumental genres. In the second draft of this movement, there were even more versions of the tune, including a bagpipe one, completing the catalogue of folk instruments imitated. Not all the versions are complete; several are fragmented or extended in a free manner that suggests the improvisational performance of peasants. Therefore, although the rondo form of this movement is quite apparent (and there are even sonata-rondo elements present, as well), the sheer accumulative effect of the variations on the quasi-folk tune is more important as regards the success of the movement. This is why Bartók omitted the bagpipe episode after the second draft; it slowed down the momentum of the musical 'merrymaking', and the thematic material was too different in character from the rest of the movement.

The pulsating energy of certain types of folk music performance is often incorporated into Bartók's music, as we have seen in the finales of the works under study which directly imitate styles of dance music. This energy filters through into more abstract movements, where a certain Eastern 'barbarism' can be felt but where no specific folk music genre is evoked. *Allegro Barbaro*, the famous piano piece of Bartók from 1911, is a good example of this type of movement, the energetic drive growing from a strident, folk-like melody at the beginning. The same type of atmosphere is engendered in the first movement of *PS*. Of this movement, Somfai says: "Finally, while listening to the work, the whole


7 Somfai, 'Notes' to Bartók Béla Piano Music 8, p.7.
hypothesis regarding the classical sonata form becomes irrelevant by comparison with the motory "allegro barbaro" character, inexhaustible rhythmic invention, and the peerless combination of accent and metre." It seems likely that this 'allegro barbaro' character could have roots in the dance music of the Eastern European peasants (or even the North African Arabs), which is persistent in its rhythmic drive. As in Bartók's movement, the various different themes or melodic motives in folk pieces are formally held together by this rhythmic drive.

As we saw in Chapter 2, Bartók's finales (from 1921 onward) usually incorporate specific folk music genres, often dance-like in character. Moreover, folk music styles from different nations were sometimes included together, as in VSl or Contrasts, symbolizing Bartók's personal ideal of a 'brotherhood of nations'. These aspects influence the form of the movements insomuch as the various sections often seem to represent another in a sequence of dances, and sometimes use material that seems to occur only once in the movement. Ignoring the thematic links between the various melodies and omitting transitions, codettas, the cadenza and coda, the finale of Contrasts could be analysed formally, as follows:

DIAGRAM 5

Dance 1 (themes 1 and 2)
Dance 2 (theme 3 and 1)
Dance 3 (bb.65-89)
Dance 4 (bb.94-102)
Dance 5 (bb.103-17)
[middle section consists of a quasi-folk tune and variations]
Dance 6 (bb.186-211)
Dance 7 (bb.214-21)
Dance 8 (bb.222-9)
Dance 9 (bb.230-40)
Dance 10 (recapitulation of Dance 5; bb.248-72)
As we saw in Chapter 6, the 'dances' in the recapitulation are quite different thematically from those in the first section and give the illusion of being new, although close study shows up various connections. The same can be said of the finale of *Music for Strings, Percussion and Celesta* (1936).

From a purely musical point of view, the inherent danger of a form such as the one described above is structural looseness and incoherence resulting from too many different ideas placed alongside each other. This is avoided in *Contrasts*, partly because of the thematic links among the various melodies but also because of the similar types of accompaniment figures maintained in the piano part. To some extent, Bartók had practice in writing this type of movement in the two *Rhapsodies* for violin of 1928, in which several authentic folk melodies are arranged in two movements, the friss movement being a sort of prototype for the *Contrasts* finale. In the larger scale and stylistically more abstract finale to *Music for Percussion, C*, however, the form does become slightly loose, around about bb.74-90. Perhaps we could more sympathetically view this 'looseness' as a deliberate formal contrast to the extreme strictness in form of the opening movement.

The finale of *VS1* also fails to be entirely convincing in form, as we saw in Chapter 7. This is partly because of the diversity of material which is not adequately unified by the motivic development, and partly because Bartók recapitulates everything which slows the momentum down (despite the copious variation of themes). Setting aside these formal difficulties, an analysis similar to the one in Diagram 5 demonstrates Bartók's overall intention, to create a polynational series of dances:
A form based on a sequence of dance-like ideas provides the justification for the 'interruption' of the recapitulation by the 'bagpipe' and 'alphorn' episodes. These folk-like episodes work formally; it is what immediately follows that is not so convincing.

In addition to his philosophy of a 'brotherhood of nations', Bartók also idealized nature and felt the need for a return to natural living. This related directly to his own positive experience of peasant rural life, as we saw in the 'Historical Background'. He believed the peaceful existence of the peasant was due to his/her direct communion with nature, and his/her music was, consequently, a natural source of inspiration. The return to nature is symbolized in Bartók's work, *Cantata Profana* (1930), the text for which the composer wrote himself, based on ancient Rumanian *colinde*. The story concerns a man and his nine sons who live by hunting. On one occasion, the sons go further and further into the forest.

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8 See quotation, p.22.
while hunting, until they cross a haunted bridge and change into stags. The father goes searching for them, finds their tracks over the bridge have changed to the tracks of stags and, upon discovering the stags, aims to shoot them. The leader of the stags (the eldest son) tells him not to shoot or the others will crush him to death, to which the father replies by pleading with them to return home. This is not possible, however; as the leader of the stags says, they could not get through the doorway with their antlers. They must spend the rest of their lives in the forest, drinking from the pure spring water. For Bartók, this transformation from man to stag, from the world of human civilization to the world of nature held a special significance. In his music it is partly symbolized by a structure which he called 'brückenform' ('bridge form'), which we have already discussed in previous chapters. This is a normally symmetrical form, where the outer parts correspond to each other in some way, and the central part contains the 'transformation'. A simple example of this form occurs in String Quartet No.4, where the outer movements correspond in various ways:

DIAGRAM 8

```
I   II   III   IV   V
A   B   C    B   A
```

The idea of transformation in the middle section prevents the recapitulated sections from becoming static variations; instead, they take on new meaning and purpose. Somfai writes, "it [the form] does not return to its origins but progresses towards a cathartic outcome". In the String Quartet No.4, Lendvai identifies bb.40-1 in the middle of the third movement

---

9 See Bartók's use of this term (in German) in the introductory notes to the score of Music for Strings, Percussion and Celesta, III (in the form, ABCBA).
as being the place of 'transformation'. Generally, the music prior to this point is characterised by the use of 'narrow' intervals, chromatic melody and harmony, and complexity and instability in the pitch organisation, whereas the music following this point uses 'wider', more acoustic intervals, and is simpler and more stable in pitch organisation. The corresponding melodies from the beginning of movements II and IV exemplify the transformation, through the use of the 'extension of range' technique Bartók described in the 'Harvard Lectures':

Ex.1: (a) String Quartet No.4, comparison of main themes from II and IV.

Compared with the first half, which is completely abstract, the second half of the work is more directly influenced by folk music. This is particularly so in the finale which combines Hungarian and Arabic folk elements in a vigorous dance-like movement (although the folk influence is less direct than in the finales of the works under study). Thus, the more personal first part of the quartet gives way to a 'resolved' second part, following the central transformation; personal problems are solved by a return to Nature, symbolized by the music of the folk community.

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11 Ernő Lendvai The Workshop of Bartók and Kodály, p.601. Also see his chapter on 'Bridge form', pp.15-28, using String Quartet No.5, II and IV as a model.
Although the form of the second movement of VS1 is not palindromic, it is perhaps an early attempt at the symbolism of 'bridge form'. In the first movement, the music is abstract and personal, with no direct folk music influence at all. The second movement begins in a similar vein, but in the middle section, more direct elements of folk music begin to creep into the texture (in 4-5, 7-8), alternating with the turbulent, personal elements (5-7, 8-10). This is the allegorical bridge where a transformation occurs from the troubled, personal world to one where the problems of life are solved. In the section that follows, the opening theme returns, but now completely changed by the heavy ornamentation which recalls folk violin playing, and simple chordal piano accompaniment. This makes way for the vigorous finale, consisting of a series of symbolic folk dances celebrating the joys of natural living. Therefore, the way Bartók manipulates the appearance of direct folk music elements is determined by the 'bridge form' concept which is, in turn, influenced by the composer's experience of the peasant world and their music.

Lendvai makes a case for the existence of a 'bridge form' in the first movement of PS but, as we saw in Chapter 5, the case is faulty and seems unwarranted considering the nature of the musical content (which is unchanging in its vigorous, driving character). There is no transformation in the middle movement, either, which is unrelenting in its heavy, depressed mood. It is only in the finale that a liberation of tension occurs. As we saw in Chapter 6, the second movement of Contrasts can be interpreted in terms of the 'Man and Nature' theme, although once again the palendromic form is absent. Bb.25-8 could be viewed as the 'bridge'; after this point, the material from the first section is completely varied and a resolution onto the tonic triad eventually occurs in b.45. The main melodic idea returns in a purely pentatonic form and in mirror-inversion, perhaps representing the perfection of peasant music and natural living.

Kárpáti views the form of this movement differently, as we saw in Chapter 6. Instead of ABA\textsubscript{v}, he sees the structure as being a sort of AA\textsubscript{v}A\textsubscript{v} where the second and third sections are distant variations on the first. As we saw, the third section still acts in a recapitulatory manner because, in Kárpáti's own words, "...it is in fact an even closer
variation than the second one [variation]". Above all, it is the texture of bb.29-32, with the alternation of clarinet and violin with the piano, that reminds us of the opening.

There is a further intriguing possibility in the form of this short movement, however. In the ternary interpretation, the recapitulation (bb.29-end) comprises the third section (bb.29-44) plus the coda (bb.45-end). The third section can also be split up into two sub-sections, demarcated by a durational indication in b.35 (49")). Durational indications were common in Bartók's scores from the early 1930s onwards, not only at the end of movements but also at the ends of sections. In the case of the movement above, the durational indication signifies the end of the antiphonal texture and the beginning of a static harmony, made up of a pedal-chord, G♯-D♯ plus A♭. As we saw in Chapter 6, bb.29-35 can be considered as an abbreviated, varied version of the first section (bb.1-18). In bb.35-44, the piano gestures from bb.3-5 are varied along with the clarinet line which is a development of the melodic line in bb.11-12. This is followed by another three-limbed sequence and antiphonal texture between the violin/clarinet and piano. Although the tonal resolution is reached at the beginning of the coda (bb.45 ff), the A♭ pedal-note (along with D♯) returns and consequently welds the final two sections together.

This rather complicated formal description can be integrated into a diagram of the form of the whole movement, as follows:

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12 Kárpáti, *op. cit.*, translation; in the original text, p.331.

13 Bartók's *44 Duos* (1931) is the earliest work I can find with durational indications; *Piano Concerto No.2*, written only months earlier, has no such durational indications.
Diagram 9: Alternative form of *Contrasts*, II.

<table>
<thead>
<tr>
<th>Sections (Ternary Form)</th>
<th>Sub-sections (using folksong structures)</th>
<th>Durations (Bartók's markings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (bb.1-18)</td>
<td>A A'' A' A'</td>
<td>1' 17&quot;</td>
</tr>
<tr>
<td></td>
<td>(p, p', p'')</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;double-line&quot; or sequence</td>
<td></td>
</tr>
<tr>
<td>B (bb.19-28)</td>
<td>A A'' B</td>
<td>42&quot;</td>
</tr>
<tr>
<td>A'(bb.29-44)</td>
<td>X → A A'' A' A'</td>
<td>49&quot;</td>
</tr>
<tr>
<td></td>
<td>y → A' A'' w w' (sequence)</td>
<td>52&quot;</td>
</tr>
<tr>
<td></td>
<td>z</td>
<td></td>
</tr>
<tr>
<td>Coda (A')</td>
<td>(z)</td>
<td>33&quot;</td>
</tr>
</tbody>
</table>

From this interpretation there exists a parallel between the overall structure of the movement, A B A' (x+y) A', and the form of the quasi-folk tune which appears in the first section. The third 'line' of this melody is a 'double-line' or sequence, as we saw in Chapter 1. The third limb of the sequence is equivalent to the fourth 'line' of the quasi-folk melody. Likewise, the third section of this movement contains two distinct parts based on the same material (although there is no sequence), followed by a fourth section (the coda).

Without proof in the form of notes or sketches we cannot be sure Bartók deliberately intended to project a folk song structure onto the form of this movement in the manner described above. It is, nonetheless, valid to suggest this if we bear in mind Bartók's acute awareness of the formal aspects of folk music.

While Kárpáti's variation-form interpretation of the second movement seems unwarranted, there are other movements from the works under study in which this form occurs within movements. The middle section of the first movement of *Contrasts*, for instance, consists of three variations on a theme, the third one blossoming into a free
development of the thematic material. (Theme based on a quasi-folk tune - bb.30-3; variation 1 - bb.34-7; variation 2 - bb.38-44; variation 3 - bb.45-57.) The middle section of the finale has several similarities with that of the first movement, although it follows a slightly different course:

**DIAGRAM 10: Form of the middle section of *Contrasts*, III.**

- Theme (quasi-folk tune)
- Variation 1
  - Free development of thematic material
- Variation 2 (more distant than variation 1)
  - Free development of thematic material

The use of variations within a structure also occurs in the second subject group of *PS*, I, where the quasi-folk tune (theme 4) is followed by a variation at a different pitch-level, and then a semi-inverted variation which constitutes theme 5. In the finale of this work, the variational principle is extended to cover the entire movement.

This simple but effective structural device has precedents in Bartók's many authentic folk music arrangements. In the piano series, *Colinde*, for example, Bartók usually sets two or three verses of the original tune, varying the accompaniment on each repetition. No.112 from *Mikroköszmos*, entitled "Variations on a Folk Tune", employs the same formal technique. Variation form of this elementary type relates to the peasant's varied treatment of individual verses of a song (or instrumental piece). Its application to larger scale, abstract pieces with quasi-folk tunes involves more sophisticated treatment of thematic material and the creation of more open-ended passages (to allow the movement to flow easily into other sections), but its essential characteristics are the same. Therefore, the influence of folk music on these formal features in the works under study is readily apparent.

In conclusion thus far, folk music indirectly influences Bartók's form in the following ways: in the projection of folk song strophic structures, the application of variation form from settings of more than one verse of folk songs (where each verse is
varied), the imitation of peasant 'merrymaking' in the finale of \textit{PS}, the development of movements with an 'allegro barbaro' character in which the form is dominated by the continuous, pulsating movement, perhaps relating to peasant dance music performance, Somfai's 'culmination points' which place reference to folk music at a high point in the form, structures based on Bartók's 'brotherhood of nations' philosophy using folk music imitations in a symbolic fashion, and finally 'bridge form', based on Bartók's philosophy of man's relation to Nature and where folk music imitations again play an important symbolic role.

\subsection*{GOLDEN SECTION PROPORTIONING IN BARTÓK'S FORMS}

The following quotation from one of Lendvai's articles will serve as an introduction to this part of the chapter:\footnote{Ernő Lendvai "Duality and Synthesis in the Music of Bartók", \textit{Bartók Studies}, p.40.}

\begin{quote}

The words of Bartók's musical language stem from the deepest layer of folk music. He himself strongly believed that every folk music of the world can finally be traced to a few primeval sources: in creating his musical idiom he was demonstrably inspired by the possibility of such a "primeval" music. Now, what is to be denoted hereafter as the "golden section system" is simply an integration of pentatonic primeval motions and primitive affinities into a system.

Leaving aside Bartók's pitch organisation, it has been demonstrated by Lendvai that Bartók's forms exhibit features of golden section proportioning. Lendvai makes it clear, above, that he thinks this relates directly to Bartók's experience of folk music. Bartók, himself, wrote "...we created through Nature, for: the peasant's art is a phenomenon of Nature".\footnote{BBE, "The Folk Songs of Hungary"(1928), p.338.} Since the golden section is a natural proportion, Lendvai would appear to be justified in claiming that Bartók could have used it as a structural element, whether
consciously or unconsciously. There is no evidence in manuscripts of Bartók making golden section calculations but, as Griffiths writes, "...he always liked to cover his tracks and destroyed most of his sketches." 16 In some of the works of the 1930s, in particular, there are perhaps too many golden section proportions to be mere coincidence, as shown in Lendvai's analysis of *Sonata for Two Pianos and Percussion*, for instance, in which he "...performed nearly a thousand geometrically satisfactory measurements". 17 An example of these proportions is the positioning of the recapitulation in the first movement; it begins after 274 bars which divides the total for the movement of 443 bars into an exact golden section (273.774).

There do not appear to be any significant golden section proportions in *VS I*. 18 In *Contrasts*, the only apparent golden section occurs in the first movement, which is 93 bars long. The division is calculated by Lendvai as follows, where the golden section is approximated as 0.618 : 0.312: 19

\[
\begin{align*}
93 \text{ bars} \\
\times 0.618 \\
57.474 \text{ bars}
\end{align*}
\]

After approximately 57.5 bars the recapitulation begins, and therefore, this significant aspect of the form complies almost exactly with the golden section proportion. Or does it? Lendvai's calculation does not allow for the clarinet cadenza in bb.88-9, which Bartók divides into six extra bars (by dotted barlines). In terms of real bar numbers, Lendvai is correct, but in terms of the movement's actual length the discrepancy caused by the cadenza is too great for the golden section proportion to have any meaning. Another discrepancy occurs if we calculate the proportions by the number of beats, because of the four bars of 3/2

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18 See Appendix 4 for a list of calculations made upon *VS I, PS* and *Contrasts*.
in the third section, which disturbs the regular 4/4 time. Along with the frequent changes in tempo, these discrepancies would seem to render the above calculation useless.

The lack of other golden section proportions in the second and third movements of *Contrasts* leads us to suspect its apparent occurrence in the first movement is coincidence only.20 The same applies to *PS* where, again, the first movement only appears to contain golden section proportions. It has been argued that the golden section is particularly used to mark the recapitulation in sonata form movements, with the first movements of *Sonata for Two Pianos and Percussion, Divertimento*, and *Contrasts* being given as examples. However, *Contrasts*, I, is not in sonata form, as we have seen, and examples of golden section have been found in other non-sonata form movements, such as the *Mikrokosmos* piece, "From the Diary of a Fly". Therefore, this does not seem to be an adequate reason why the proportions appear in some movements and not in others.

The accounts of golden section proportions in the first movement of *PS* are confusing and complicated. In a recently published book by Paul Griffiths, the author states:21

> In the first movement of the Piano Sonata, for instance, the recapitulation begins after 656 quavers in a movement of 1062 quavers, which coincides to the nearest quaver with the Golden section: in other words, the second part of the movement is related in length to the first as the first is related to the whole.

According to my calculations, the Universal Edition of the first movement of Bartók's *PS* contains 1098 quavers, not 1062 as stated above. The golden section of 1098 is 678, thus disturbing Griffiths' point. Irrespective of this discrepancy, the place where Griffiths claims the recapitulation begins is in the middle of b.161 which is, by my reckoning, in the middle of the development section and is certainly not a significant division in the form of the movement. The golden section of the correct number of quavers also fails to signify an important point in the form:

---

20 See Appendix 4.
After 678 quavers we have reached b.166, which is also in the middle of the development section. The recapitulation does, in fact, occur after 760 quavers (in b.186ff), which has no significance as far as golden section proportions are concerned. Therefore, Griffith's point would seem to be based on faulty evidence.

In another recently published book, Lendvai discusses the use of the golden section in the coda of this movement. In the opening two sentences of the relevant section, however, there is the suggestion that golden section proportions are present elsewhere in the sonata: 22 "The manuscript of Bartók's Sonata for Piano well demonstrates how these proportions came into existence. In the coda of Movement I, for example, it is just the subsequent insertions and deletions that testify to Bartók's eye for proportion." The expression, "for example", implies that the proportions occur in other parts of the work, but exactly where is never revealed. Likewise, in the 'Commentary' to the facsimile of the second draft of the sonata, Somfai writes (with regard to this movement):

(Instead of adhering strictly to the calculated bar numbers and proportions according to the Golden section, Bartók carried out alterations following his pianistic instinct with regard to the insertion, repetition and deletion of bars, and above all in such "soft" parts of the form as the Coda of the first movement on page 4.)

The implication is that golden section proportions are present in the first draft of the movement but are negated by the alterations in the second draft. As access to the first draft is not yet permitted, it remains impossible to confirm or deny the presence of such proportions. 23 In the second draft, according to my calculations, there are nine added bars (or 38 extra quavers) and three deleted bars (or 12 less quavers); overall, then, there is a total of six extra bars (or 26 quavers) in comparison with the first draft. In other words, there

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23 The first draft of *PS* is held in the New York Bartók Archives.
were originally 262 bars (or 1072 quavers) in the first draft, which were subsequently extended to 268 bars (or 1098 quavers). Even allowing for this, there is no coincidence between the golden section and the form of the first movement, as the following calculations show:

Possible number of bars in first draft = 262

\[ \frac{0.618}{262} \approx 162 \text{ bars approximately} \]

Possible number of quavers in first draft = 1072

\[ \frac{0.618}{1072} \approx 662.5 \text{ quavers approximately} \]

This division occurs in the middle of the recapitulation, and has no significance.

As was seen before, Lendvai claims there are golden section proportions in the coda of this movement. According to his analysis, the coda begins on the second quaver of b.233 and, therefore, consists of 142 quavers.\(^{24}\) The golden section divides this number into the ratio, 54:88, "...which coincides with the point of the form". After 54 quavers of the coda, the following idea appears:

As well as being the climax of the coda, this provides an answering phrase to the first two bars of the coda, the material deriving from theme 4 as we saw in Chapter 5.25

Therefore, the musical events define a golden section ratio. However, the analysis in Chapter 5 demonstrated that precisely where the coda begins is uncertain. If we accept either Somfai’s suggestion, or the one put forward by the author, then Lendvai’s golden section proportion for the coda is disturbed. According to Somfai, for instance, the coda does not begin until b.235, producing the ratio of 48:88 instead of 54:88.26

Lendvai’s analysis of the coda is not complete at this stage, however. He puts forward a concept of an enlarged coda, in the context of a possible ‘bridge form’ (discussed in Chapter 5), which needs to be quoted at length for us to understand it.27

25 See ch.5, pp.343-4.
Fifth question: methods of measuring proportion. (a) To begin with, I refer to the facsimile edition of *Sonata for Piano* (Editio Musica Budapest, 1981). The manuscript certainly demonstrates how these proportions came into existence. Especially in the *oda* of Movement I, it is just the subsequent insertions and deletions that testify to Bartók's eye for proportion.

The themes of the opening movement fit into an exact bridge-form (see my English book, 1983, pp. 209-210). This presents an interesting analogy. Speaking about the bridge-form of the "Fifth Quartet," Bartók designates exactly in Movement I the position of the coda—but he gives free scope to the interpretation that the coda starts already with the main-theme closing the bridge form. In the case of Sonata for Piano, too, the main-theme *closes* the bridge, but at the same time it *sets* the coda into action.

In the strictest sense of the word, the coda comprises 142 quavers—and its golden section (88 quavers) coincides with the "point" of the form (see my book, 1983, pp. 206 and 683). But, as mentioned, the coda may also be regarded more widely: from the last 58 bars, or even, from the recapitulation of the main-theme. In the former case, we should add 22 bars to the 36 bars analysed above, in the latter case 36 more bars. The proportions are precise again:

36 + 22 + 36, that is, 36 + 58 = 94,
the golden section of 94 being 58, the golden section of 58 being 36, and that of the latter 22. The points of golden section touch the Principal theme, the Contrast theme and the Coda (bs 176-211-233). Within this, bars 176-232 also display an exact golden section (counted in quavers: 145 + 90 = = 235).

Because of the "knocking" rhythmic character of the movement, it is beyond question that our measurement should be based on quavers.

---

12 We calculate uniformly with 2/4 metre units, and thus consider the occasional 1/4 as one and a half bars, and the 1/8 as three-quarters of a bar. Expressed in quavers, the result is even more "showy."

Lendvai's concept of a 'bridgeform' in this movement is not convincing, as was shown in Chapter 5; concerning this, Somfai is in agreement with me. Consequently, the analogy with *String Quartet No.5* does not bolster Lendvai's case. Furthermore, his "recapitulation of the main theme" in bb.176 would seem to be dubious as this passage leads into a true recapitulation, thematically and tonally, in bb.187ff (see Chapter 5). Even if we accept Lendvai's proposed form, there is an inconsistency in his golden section calculations.
according to numbers of bars. He, himself, says "...it is beyond question that the measurement should be based on quavers" (from the quotation, above). As Somfai demonstrates, minor discrepancies appear between significant formal junctures and golden section divisions if we calculate the last 94 bars according to quavers instead of bars.

(a) bb.176-210 contains 145 quavers
   bb.211-end contains 232 quavers  G.S. = 143.37: 233.63

(b) bb.210-232 contains 90 quavers
   bb.233-end contains 142 quavers  G.S. = 87.75: 144.25

(c) bb.176-210 contains 145 quavers
   bb.211-232 contains 90 quavers  G.S. = 89.61: 145.39

(d) bb.176-232 contains 235 quavers
   bb.233-end contains 142 quavers  G.S. = 145.23: 231.77

These discrepancies undermine Lendvai's calculations according to the number of bars. Although Bartók's addition of bars in the coda (in the second draft) brings the music somewhat closer to these golden section proportions, it seems much more likely that he was simply "following his pianistic instinct" rather than relying on these proportions.

Other notable statistics regarding the numbers of beats or bars can be found in this movement. The beginning of the development section (b.135), for instance, coincides almost exactly with the central point in the movement. 134 bars of exposition are answered by 134 bars of development and recapitulation, with the former containing four fewer quaver beats than the latter. Some analysts have attached significance to the symmetrical division.

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28 Somfai, "Válasz Aranymetszés ügyben", op. cit., p.31. Although no translation of this article was available, it was deduced the figures above had the significance ascribed to them.
of forms in relation to the asymmetry of golden section proportions. 29 In the case of PS, however, Somfai dismisses the arithmetical symmetry as "...a sheer coincidence rather than a plan" which, considering the lack of any other symmetrical divisions in this work, seems the most likely assumption. 30

Fibonacci numbers have also been used in analysis of formal features in Bartók's music. The Fibonacci series provides an approximation of the golden section proportion expressed as a numerical series:

<table>
<thead>
<tr>
<th>Golden section series</th>
<th>Fibonacci series</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.72</td>
<td>1</td>
</tr>
<tr>
<td>1.17</td>
<td>1</td>
</tr>
<tr>
<td>1.89</td>
<td>2</td>
</tr>
<tr>
<td>3.07</td>
<td>3</td>
</tr>
<tr>
<td>4.97</td>
<td>5</td>
</tr>
<tr>
<td>8.02</td>
<td>8</td>
</tr>
<tr>
<td>12.98</td>
<td>13</td>
</tr>
<tr>
<td>21.01</td>
<td>21</td>
</tr>
</tbody>
</table>

There are occasions in Bartók's music where the length of consecutive phrases or rhythmic units form a numerical sequence that corresponds with the Fibonacci series. In order aurally to perceive such a series in the music, it must be fairly static in nature, with a regular and well defined pulse. Each phrase or rhythmic unit needs to clearly define the particular number in the sequence. A well-known example occurs in Bartók's Allegro Barbaro, which contains many bars of a reiterated F# minor chord that forms groups of 3, 5, 8 and 13 bar units. 31 Of the works under study, the one most obviously to qualify for this type of formal analysis is PS, and the first movement in particular which has a somewhat 'allegro barbaro' character. However, nowhere in this movement does the Fibonacci series play a significant role. Kramer writes, "For the additive property of the Fibonacci series to have any meaning,

______

29 See, for instance, Lendvai's Béla Bartók: An Analysis of his Music, under the chapter entitled "Diatonic System"; Roy Howat's article, "Debussy, Ravel and Bartók: Towards some new concepts of form", Music and Letters v.58, 1977, p.285; András Szentkírdiyi not only uses the golden section proportions and arithmetical symmetry, but also the "golden bisection" (the ratio 75:25), in his analysis of Violin Sonata No.2 - see Bartók's Second Sonata for Violin and Piano 1922, Ph.D. diss. (Princeton University, 1976).

30 In correspondence with László Somfai, 1985. See also Somfai "Analytical Notes", VIII, "Thematic Contrast and Organic Construct in a Sonata Exposition (Piano Sonata, First Movement)", op. cit, p.41, n.50.

there must be at least four consecutive terms present..."32. The rhythm or phraseology in PS does not fulfil this criteria at any stage, with one small possible exception; bb.7-14 of the first movement contains the following rhythmic scheme:

Ex.5: PS, I, rhythm of the right hand, bb.7-14.

\[
\begin{array}{cccccccc}
& 8 & 5 & 3 & 1 & 1 & 1 & 1 \\
2 & 4 & & & & & &
\end{array}
\]

8, 5, 3 and 1 are fibonacci numbers, although the omission of 2 would seem to undermine the significance of this occurrence. As Somfai points out, the quaver rests also affect these rhythmic units, in effect changing the pattern to 8, 6, 4, 2, 2.33

In light of the preceding information, it is doubtful whether we can make any firm conclusions about the possible use of the golden section in the works under study. This, of course, does not mean that the golden section does not occur in other works of Bartók nor does it deny its significance in the composer's form. However, we should be wary of assuming that it will be present in a piece, and avoid attempting to bend our reasonable interpretation of the form to fit this proportion. As to the question of whether or not Bartók instinctively gained a sense of golden section proportioning from that 'phenomenon of Nature', folk music, it is impossible to answer one way or the other. It is the author's opinion that any golden section proportioning to be found in Bartók's works is likely to have been instinctive (if intended at all) rather than worked out. This would not only explain the complete lack of any written proof (so far, at least) but also the inconsistency with which the proportions seem to appear in his works. There is no reason to assume Bartók's formal instincts worked in the same way each time he wrote a piece.

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32 Ibid., p.119.
CONCLUSION

The purpose of this thesis has been to discover how and to what extent folk music influenced Bartók's music in \textit{VS1}, \textit{PS} and \textit{Contrasts}. From what has been presented, it is clear that much in these works is strongly influenced by folk music. At the direct level, we find imitations of folk song and instrumental folk music. Bartók allies this level with his arranging of authentic folk melodies although, as we have seen, there are differences between the two. At the indirect level, we find basic elements of folk music - scales, intervals, rhythmic and formal features - manipulated by Bartók to create an abstract style which has an underlying folk quality or atmosphere. This term ('indirect level') and its definition is derived from Bartók's own description of compositional procedures:

There is [another] way in which the influence of peasant music can be traced in a composer's work. Neither peasant melodies nor imitations of peasant melodies can be found in his music, but it is pervaded by the atmosphere of peasant music. In this case we may say, he has completely absorbed the idiom of peasant music which has become his musical mother tongue. He masters it as completely as a poet masters his mother tongue.\footnote{BBE, "The Influence of Peasant Music on Modern Music" (1931), pp.343-4. Direct and indirect levels of folk music influence are further distinguished by Bartók in the following way: "You may want to ask in what way does the influence of folk music appear in all such original works. First, it appears more or less in the general spirit of the style. To describe this spirit in words is, of course, sometimes rather difficult; to discern it is largely a matter of intuitive feeling, based on some kind of experience with folk music material. Secondly, in many cases themes or turns of phrases are deliberate or subconscious imitations of folk melodies or phrases as, for instance, \textit{Evening in the Country} and \textit{Sonata for Piano}." BBE, "The Relation Between Contemporary Hungarian Art Music and Folk Music" (1941), pp.349-50.}

To reveal the indirect level we have had to examine pitch organisation (melody, harmony, tonality), rhythm and form in considerable detail in order to interpret Bartók's compositional language and discover a pervading "atmosphere of peasant music".

The direct level, which is more readily accessible, has been documented in the first part of this thesis. It was shown in Chapter 1 that folk song was of greater importance to
Bartók than instrumental folk music. This is reflected in the selected works by the prominence of folk song imitations. Of the six imitations present in *PS* and *Contrasts*, five are based on Hungarian models, and one displays elements of Slovakian folk song.\(^2\) There are four general features which can be identified among the Hungarian models adopted: four-part structures, widely ranging melodies and descending melodic lines, a basis in the Hungarian pentatonic scale and ecclesiastical modes, and Hungarian rhythmic features such as 'dotted' rhythms. The majority of these Hungarian models appear to belong to Bartók's category of 'Old' style folk songs, this category being the composer's favourite. In addition to imitating typical folk song features, Bartók also employed atypical features, such as the 'double-line' construction. Folk song imitations, along with their accompaniments, constitute most of the main themes in *PS* and *Contrasts*, and provide material for ensuing developments (as in *PS*, III, for instance, where the entire movement consists of variations on a quasi-folk tune).

While vocal forms of folk music were of particular importance to Bartók, certain types of instrumental folk music provided a rich source of inspiration for the composer. Evidence of this (discussed in Chapter 2) is particularly well represented in the selected works, with all three finales containing examples of instrumental folk music imitations. In the cases examined, the models were mainly Rumanian and usually associated with folk dance. The most significant folk instrument to be imitated was the bagpipes, although this was also via bagpipe-imitations on the rural violin, as we saw in *VS* I, III. Bartók also took advantage of the folk pieces in 'free-form', which are made up of melodic motives strung together in an improvisational manner (and using devices such as 'shifted rhythm' and 'stop-gap' motives). The purpose of such dance music imitations in the finales was to create a joyous conclusion to and resolution of the tensions created in earlier movements. In addition to Rumanian folk music, elements of Hungarian, Ruthenian and Arabic folk music are found in *VS* I, III, and a quasi-Hungarian/Bulgarian melody in *Contrasts*, III. In this way,\

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\(^2\) This supports the view generally held (by Bartók and others) that the Hungarian influence is the strongest influence on Bartók's music.
Bartók's concept of a 'brotherhood of nations' is symbolised in musical terms through folk music.

In *Contrasts*, Bartók refers directly to the *verbunkos* idiom, a popular Hungarian type of music with roots in folk music. Bartók was interested in the early style rural *verbunkos*, having been spurred on by his colleague Kodály who had recently rediscovered this particular variety. Bartók's two *Rhapsodies* for violin of 1928, which use authentic Transylvanian violin pieces, were the first results of this new interest, and in the 1930s the composer employed the *verbunkos* in his abstract works, such as *Violin Concerto No.2* (1937). The strong links between the *Rhapsodies* and *Contrasts*, both formally and in the handling of the *verbunkos*, were noted in Chapter 3. The *verbunkos* added a further dimension to Bartók's melodic writing, possibly influenced the harmonic idiom (with the imitation of gipsy bands) and provided a new style of movement, moderate in tempo and with other specific characteristics.

Two previously unexplored areas of folk influence on Bartók's music were considered in Chapter 4: the influence of the peasant's 'sound-world', both vocal and instrumental, and the influence of performance peculiarities in peasant music, with the concept of 'mistake-imitations' in Bartók's works. In discussing the former, it was hypothesised that the 'sound-world' may have affected Bartók's musical aesthetics. The natural but often hard and raucous tonal qualities of peasant music seem to be reflected in certain passages from the selected works (and other compositions of Bartók, such as *Piano Concerto No.1*). In examining the latter, it was demonstrated that Bartók's precise folk transcriptions recorded many irregularities in peasant music, such as unstable pitches, erratic rhythmic fluctuations, accidental consecutive fifths, mechanical faults, plain wrong notes, distortions of form, and others. His use of the expression *sic* in transcriptions and its appearance in *Contrasts* led the author to examine the possibility of written-in mistakes in Bartók's music, or deliberate irregularities that use a folk music precedent. These 'mistake-imitations' are symptomatic of an improvisational aspect in Bartók's music. A distinction was made between 'mistake-imitations', and bimodal effects and the composer's tendency constantly to vary his material.
The indirect influence of folk music, this "general spirit of the style", is scrutinised in Part Two. Chapters 5-7 dealt with all aspects of pitch organisation because it is here that the folk elements permeate Bartók's harmonic and tonal style. The analytical method applied to Bartók's music was a general one. Concepts and terminology from a variety of sources (introduced in the 'Review of Literature') were employed, but essentially the author attempted to examine the music from Bartók's point of view. No one, specific analytical method has been used because it is the author's opinion that such a method could not adequately embrace all aspects of Bartók's pitch organisation. This opinion seems supported by the frequently quoted passage from the third of Bartók's "Harvard Lectures":

I have never created new theories in advance, I hated such ideas. I had, of course, a very definite feeling about certain directions to take, but at the time of the work I did not care about the designations which would apply to those directions or to their sources. This attitude does not mean that I composed without...set plans and without sufficient control. The plans were concerned with the spirit of the new work and with technical problems (for instance, formal structure involved by the spirit of the work), all more or less instinctively felt, but I never was concerned with general theories to be applied to the works I was going to write.3

In the light of a small amount of evidence from sketches of PS, and the improvisational qualities described in the selected works (and the concept of 'mistake-imitations'), it seems clear that Bartók did not have a system of pitch organisation to cover every note.

If Chapters 5 to 7 seem lengthy, it is because of the complex task involved in tracing elements of folk music at this deeper, subconscious level. In each of the selected works Bartók takes a somewhat different approach to the organisation of melody, harmony and tonality. PS, III was used as a starting point because it is in this movement that certain techniques appear most clearly. Most significant is the projection of folk modality from the melody (based on a quasi-folk tune) to the harmony, producing both modal and bimodal textures. A second major discovery was the intervallic argument which linked melody with harmony and tonality. In PS, III, the M.2 appeared first as a prominent interval in the modal, pentatonic-based melody. It was projected onto numerous pitch simultaneities.

Finally, it separated the main tonal areas of the movement, E and D. The same tonal relationship appeared in the other two movements where, again, the M.2 played an important unifying role in the melody and harmony. In the first movement, bimodality was extended into complete bimodal chromaticism (between parts), while in the second movement bimodal chromaticism in the melodic line was encountered. The second movement also demonstrated how the folk quality in Bartók's style is still to be found in abstract writing which lacks any reference to folk genres. The static nature of the harmony here and elsewhere in PS was a further feature which probably owes it origin to folk music.

Despite the stylistic differences among the selected works, there were techniques of pitch generation observed in PS which also appeared in *Contrasts* and *VS1*. Most notable was the use of folk modes in bimodal combinations, the derivation of artificial scales (such as the 1:2 model) from folk modes, and the isolation of certain intervals which were prominent in folk modes and which pervade the melody, harmony and tonality. Bartók also has other ways of manipulating folk modes. In *Contrasts*, II, for example, a folk-like theme was subjected to symmetrical transformations which made it more abstract. Symmetry was also used occasionally in other movements from the selected works, and not necessarily associated with folk modes. In some passages from *VS1*, Kárpáti's concept of 'mistuning' seemed a better technical label to use than bimodality, as for example with the *leitmotif* from the first movement.

In addition to the direct imitation of rhythmic features from folk music, Bartók adopts certain rhythmic principles from this source in the selected works. These rhythmic principles can be summarised under two main categories: asymmetric rhythm and rhythmic variation. Concerning the former, Bartók uses four main sources from folk music: first, adjustable rhythm in *tempo giusto* melodies, second, instrumental dance music, third, Arabic drum rhythms, and fourth, Bulgarian rhythm. Bartók's love of variation manifested itself in rhythm as well as pitch. Repetitions of material, sequences and recurrent rhythmic patterns were usually altered in some way for the sake of variety. This reflects a characteristic of folk music of which Bartók was highly conscious.
In the final chapter of this thesis, the influence of folk music structures on the selected works was examined. On three occasions where folk song was directly imitated, Bartók simply repeated the tune (with variation), creating a 'verse' structure, paralleling the use of this structure in authentic folk song arrangements. In the case of PS, III, one quasi-folk tune is varied many times, possibly reflecting an old folk tradition of musical merrymaking where one tune was sung and played all evening. There were also instances of folk song structures being incorporated within large scale forms, although these are harder to prove without further evidence from sketches. Again, in the finales of VSI and Contrasts (where instrumental folk music is evoked), Bartók produces a sort of 'dance' form, where each new theme or variation can be heard as yet another dance in a sequence of dances. In VSI, Bartók's philosophy of a 'brotherhood of nations' was also a driving force behind the form, containing imaginary dances from different nations. Finally, the possibility of the golden section influencing formal structures in the selected works was discussed. Ernő Lendvai has demonstrated that this naturally occurring proportion appears in many works by Bartók, and suggests this relates to the composer's experience of folk music, also a "phenomenon of nature". However, there was not sufficient evidence to suggest that the golden section is formally significant in the selected works.

Some of the findings in this thesis are only tentative, and more research is required before they can be confirmed. The concepts of the 'sound-world' and 'mistake-imitations' are two new areas that need considerably more examination. Imitations of instrumental folk genres in the selected works are not always as clearly defined as are vocal genres. Further exploration of Bartók's ethnomusicological material would be worthwhile in this area. Equally valuable would be a comparison between the types of authentic folk music Bartók arranged and the types he imitated in abstract compositions. The significance of Bartók's arrangements in his total output is something that probably needs to be emphasised in future research of folk influence. There are two general areas for future discussion concerning folk influence on harmony in Bartók's music: harmonic staticism, and the increasing use of conventional triads in his later works. Finally, the structural influences of folk music on
Bartók's compositions have not been widely considered. Some of the points raised in Chapter 9 require closer scrutiny.

At this stage, it is worthwhile considering the extent to which the findings of this thesis can be applied to Bartók's total output. At the beginning, it was stated that VSl, PS and Contrasts were chosen (a) because of the relatively little amount written about them, (b) because they represent three different periods from Bartók's creative life, (c) because they contain a rich variety of folk music sources and display different levels of this influence, and (d) because of the similarities in genre: they are all chamber works in three movements (fast-slow-fast). This final point facilitates comparisons in the development of Bartók's folk-based style, from the 'expressionist' language of VSl to the simpler, more economical language of PS to the more mellow, 'classical' language of Contrasts. How do these three works relate to Bartók's other abstract compositions?

VSl is, in some respects, special in Bartók's output. It is his first abstract work in which instrumental folk music plays a significant role; the finale contains several direct imitations of this source. However, this movement also sets a precedent for the finales in Bartók's later works. The influence of instrumental folk music can be felt in the finales of Sonata No.2 for Violin and Piano, PS, String Quartet Nos. 3 and 4 (where it is less direct), Music for Strings, Percussion and Celesta, Contrasts, Divertimento and Concerto for Orchestra. Although the folk influence is more direct in VSl, III, than in later works, this movement can nevertheless be considered typical in that it presents a resolution of tension through direct reference to folk music. From a stylistic point of view, however, VSl cannot be considered typical of Bartók's mature output. Its embracing of atonality and stylistic features of the 'expressionist' trend places it in a special category, along with the compositions opp.15-20 (and possibly even earlier works such as the Four Orchestral Pieces, op.12) plus Sonata No. 2 for Violin and Piano (which together with VSl are the first of Bartók's works without opus numbers). In these works, as for example in the finale of VSl, elements of folk music and art music are not completely synthesized into a unified style. Movements 1 and 2 (VSl) contain virtually no direct references to folk music - a characteristic not only of 'expressionist' works but also of many movements in later works.
For example, the first four movements of *String Quartet No. 4* are abstract in content with no imitations of folk genres. What is more unusual in VSl, I and II as far as Bartók's mature output is concerned is the lack of *indirect* folk influences. Borrowing Bartók's analogy of the musical mother tongue, we could say that the composer's language is not fully developed at this stage.

*PS* is typical of the piano works written by Bartók in 1926. Here, his compositional language is more firmly based on folk music than before - and at both the direct and indirect levels. While there is more emphasis on folk song imitation in *PS* than in its closest relative, *Out of Doors*, we do find similar direct folk song imitations in "Preludio-All’Ungherese" and "Chanson" from *Nine Little Piano Pieces*. In works written after 1926, the imitations of folk song are generally less direct than in *PS*, but are still frequent: for example, *Violin Concerto No.2, II, Sonata for Two Pianos and Percussion*, themes 1 and 2 from I, II, and *Concerto for Orchestra*, I and II. Aside from folk music, it is worth noting that the 1926 piano works are linked in another respect - all show Bartók's move towards greater economy and simplicity of style. In this regard they are connected with earlier piano works, such as the *Fourteen Bagatelles* (1907) and *Allegro Barbaro* (1911) and the later *Piano Concerto No.2* (1930) and *Sonata for Two Pianos and Percussion*. (1938). The concentration on bare essentials is also felt in other genres, such as the later string quartets.4

The *verbunkos* element in *Contrasts* makes this work rather special in Bartók's output, although as we have seen, the *verbunkos* appears in several other of the composer's works. Its appearance in *Contrasts* is less obvious than it is in the *Rhapsodies* (where authentic folk music is employed) although rather more visible than in *Violin Concerto No.2*. Likewise, the folk influence is a little stronger in *Contrasts* (especially in the finale) than in other abstract works of this time. Stylistically, *Contrasts* is characteristic of Bartók's final 'classical' period, where his music became less rigorously controlled, more lyrical and consonant, and marked by sharp contrasts.

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4 It must also be said that with its emphasis on homophonic textures, *PS* is less typical of Bartók's mature style. His compositions from 1926 onwards became increasingly contrapuntal.
It seems, then, that on the whole the selected works are characteristic of the progression of Bartók's compositional output from about 1916 onward. At the same time, some aspects of folk music influence and stylistic development do set these works apart, and changes in approach occur from work to work. A few notable elements of Bartók's style are absent from the selected works, such as the palindromic 'bridge-form' and strongly contrapuntal passages (and fugues).

From this we can make some tentative general conclusions about the influence of folk music in Bartók's output of abstract, instrumental compositions. First, the imitation of folk music genres is an important element in most of his mature works. It is in the finales, particularly, that this direct influence is most frequently and strongly felt. Second, it is folk song that is pre-eminent in Bartók's music, although instrumental folk music plays an important role. Third, while Bartók's folk sources are polynational, the influence of Hungarian folk music is the strongest in Bartók's output, followed probably by Rumanian, and then Slovakian folk music. Fourth, the absorption of elements of folk music into Bartók's style at the indirect level is most thoroughly achieved in the works dating from and after 1926. Prior to this, there is a duality between folk music and art music in Bartók's style. Finally, Bartók worked within the Western classical tradition, and non-folk elements are often of more significance than folk elements in a particular composition.

When Bárta turned to folk music in his composition, he believed he was drawing on a pure, perfect source of inspiration, one that was natural and unspoilt by the influences of urban life. However, no matter how pure this source was, it did not guarantee him a place among the great composers of this century. It was his educated mind, sensitive, hardworking and brilliant that ensured the precious folk source was integrated into his music in a satisfying and convincing manner.
APPENDIX 1:

MAPS OF AREAS IN WHICH BARTOK COLLECTED FOLK MUSIC

[Map showing territories and frontiers]

Areas (approximately) where Bartók collected folk music
APPENDIX 2: FORMAL ANALYSIS

VI, I: Sonata form

Exposition:

<table>
<thead>
<tr>
<th>Theme</th>
<th>sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1</td>
<td>b.1 - b.5</td>
</tr>
<tr>
<td>Theme 2</td>
<td>b.6 - b.3</td>
</tr>
<tr>
<td>Theme 1\textsuperscript{V}</td>
<td>b.3 - b.5</td>
</tr>
<tr>
<td>Theme 3</td>
<td>b.5 - b.6; link b.6 - b.17</td>
</tr>
<tr>
<td>Theme 4</td>
<td>b.1 - b.8</td>
</tr>
<tr>
<td>Theme 5</td>
<td>b.8 - b.9; climax b.9 - b.10</td>
</tr>
<tr>
<td>Codetta</td>
<td>b.1 - b.10 - b.11</td>
</tr>
</tbody>
</table>

Development:

b.3 11 - 20

Recapitulation:

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<tr>
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<th>sections</th>
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<tbody>
<tr>
<td>Theme 1</td>
<td>b.20 - b.22 b.3</td>
</tr>
<tr>
<td>Theme 2</td>
<td>b.22 b.4 - b.23 b.3; link b.23 b.4 - b.24</td>
</tr>
<tr>
<td>Theme 4</td>
<td>b.24 b.1 - b.24</td>
</tr>
<tr>
<td>Theme 5</td>
<td>b.25 - b.5 b.26; climax b.4 b.26 - b.26 b.7</td>
</tr>
<tr>
<td>Coda</td>
<td>b.4 b.7 - end</td>
</tr>
</tbody>
</table>

VI, II: Ternary form

First section:

| Violin theme | bb.1 - 3 b.1 |
| Piano theme | bb.3 b.1 - 2 |
| Violin theme\textsuperscript{V} | b.2 - b.3 b.3 |
| Piano theme\textsuperscript{V} | b.3 b.3 - 4 |

Second section:

| A | bb.4 - 5 |
| B | b.5 - 7 |
| AV | b.7 - 8 |
| BV | b.8 - b.2 b.10 |

Third section (recapitulation):

| Violin theme | b.1 b.10 - b.11 b.4 |
| Piano theme | bb.3 - 1 b.4 |
| Violin theme + Piano theme | b.1 b.12 - b.2 b.9 |
| Coda | b.10 - end |
VS I, III: Sonata-Rondo form

Exposition:

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<thead>
<tr>
<th>Episode 1</th>
<th>Episode 2</th>
<th>Episode 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposition</td>
<td>Development</td>
<td>Recapitulation</td>
</tr>
<tr>
<td>Introduction</td>
<td>Theme 1/Rondo 3</td>
<td>Theme 1/Rondo 3</td>
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<tr>
<td>Theme 1/Rondo theme 1</td>
<td>'Augmented' theme (theme 1v)</td>
<td>'Grazioso' theme</td>
</tr>
<tr>
<td>Theme 2</td>
<td>'Augmented' theme (theme 2v)</td>
<td>'Grazioso' theme</td>
</tr>
<tr>
<td>Theme 3</td>
<td>'Grazioso' theme</td>
<td>Development of material</td>
</tr>
<tr>
<td>Link</td>
<td>'Grazioso' theme</td>
<td>Theme 2</td>
</tr>
<tr>
<td>Link</td>
<td>'Augmented' theme + Theme 1v/Rondo 4</td>
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</tr>
</tbody>
</table>

PS, I: Sonata form

Exposition:

Theme 1 bb.1-37; codetta bb.38-43
Theme 2 bb.44-56
Theme 3 bb.57-69; link bb.69-75
Theme 4 bb.76-115
Theme 5 bb.116-134

Development: (Including recapitulation of theme 2) bb.135-187

Recapitulation:

Theme 1 bb.187-210
Theme 4 bb.211-224; link bb.225-235
Coda bb.236-end
**PS, II: Ternary form:**

| First section: | Theme 1 | bb.1-6  |
|               | Theme 2 | bb.7-14 |
|               | Theme 1 extended | bb.15-23 |
|               | Theme 2v | bb.24-29 |

| Second section: | bb.30-41 |

| Third section (recapitulation): | Themes 1 and 2 | bb.42-52 |
|                                 | coda          | bb.53-end |

**PS, III: Rondo form based on a single theme (with elements of Sonata-rondo form)**

| (Exposition) | Rondo theme 1 | bb.1-19 |
|             | Inverted theme | bb.20-27 |
|             | Transition     | bb.28-52 |
|             | Episode 1: 'vocal' version | bb.53-91 |
|             | Rondo theme 2  | bb.92-110 |

| (Development) | Re-inverted theme | bb.111-135 |
|               | Transition       | bb.135-142 |
|               | Episode 2: 'flute' version | bb.143-156 |

| (Recapitulation) | Rondo theme 3 | bb.157-175 |
|                  | Inverted theme | bb.175-181 |
|                  | Transition     | bb.182-204 |
|                  | Episode 3: 'violin' version | bb.205-226 |
|                  | Lead-in to Rondo 4 | bb.227-247 |
|                  | Rondo theme 4   | bb.248-264 |
|                  | Coda            | bb.265-end |

**Contrasts, I: Ternary form:**

| First section | Introduction   | bb.1-2 |
|               | Theme 1 + elaboration | bb.2-29 |

| Second section | Theme 2 + elaboration | bb.30-57 |

| Third section (recapitulation) | Theme\(^V\) | bb.57-84 |
|                                 | Coda + cadenza | bb.85-end |

**Contrasts, II: Ternary form (alternative forms discussed in chs.6,9)**

| First section | Theme | bb.1-18 |

| Second section | 'Stollen' | 'Stollen' | 'Abgesang' | bb.19-28 |

| Third section (recapitulation) | Theme\(^V\) | bb.29-44 |
|                                 | Coda | bb.45-end |
Contrasts, III: Ternary form

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<thead>
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<td>bb.1-10</td>
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<tr>
<td>Theme 1</td>
<td>bb.10-17</td>
<td></td>
</tr>
<tr>
<td>Theme 2</td>
<td>bb.18-30; link bb.30-35</td>
<td></td>
</tr>
<tr>
<td>Theme IV</td>
<td>bb.35-52</td>
<td></td>
</tr>
<tr>
<td>Theme 3</td>
<td>bb.52-58</td>
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<tr>
<td>Themes 1 and 2 varied</td>
<td>bb.59-118</td>
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<tr>
<td>Codetta</td>
<td>bb.118-131</td>
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</table>

| Second section:        | Theme 4 + elaboration           | bb.132-168       |

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<tr>
<th>Third section (recapitulation)</th>
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<tbody>
<tr>
<td>Theme 2 elaborated</td>
<td>bb.169-185</td>
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<tr>
<td>Theme 3 elaborated (jazz episode)</td>
<td>bb.186-212</td>
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<tr>
<td>Cadenza</td>
<td>bb.212-213</td>
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<tr>
<td>Themes 1 and 2, elaborated</td>
<td>bb.214-286</td>
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<tr>
<td>Coda</td>
<td>bb.287-end</td>
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</table>
This description of the draft forms of PS, III, is indebted to the work of Dr. László Somfai, Head of the Béla Bartók Archives in Budapest.

There are three complete versions of PS, III, to be found in Bartók's manuscripts. The first appears in the first draft (unavailable to the author), the second and third in the second draft (in the facsimile edition published in Budapest in 1980), with the third draft becoming the final published form of the movement. In order to see the main differences between these versions, all three are presented below in diagrammatic form. The symbol 'A' represents a 'strophe' of the quasi-folk tune employed in this movement, 'Av' signifying a varied version of this basic tune (see ch.1 for a description of this melody and its variants):
### First Version:

<table>
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<tr>
<th>Rondo 1+</th>
<th>Episode 1</th>
<th>Rondo 2+</th>
<th>Episode 2</th>
<th>Rondo 3</th>
<th>Episode 3</th>
<th>Rondo 4</th>
<th>Episode 4</th>
<th>Build-up</th>
<th>Rondo 5</th>
<th>CODA</th>
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</table>

(Total length: 371 bars)

### Second Version:

<table>
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<tr>
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<th>Episode 1</th>
<th>Rondo 2</th>
<th>Episode 2</th>
<th>Rondo 3</th>
<th>Episode 3</th>
<th>Rondo 4</th>
<th>Episode 4</th>
<th>Build-up</th>
<th>Rondo 5</th>
<th>CODA</th>
</tr>
</thead>
</table>

(Total length: 416 bars)

### Third (and Final) Version:

<table>
<thead>
<tr>
<th>Rondo 1+</th>
<th>Episode 1</th>
<th>Rondo 2</th>
<th>Episode 2</th>
<th>Rondo 3</th>
<th>Episode 3</th>
<th>Rondo 5</th>
<th>CODA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inverted version</td>
<td>'vocal' version</td>
<td>'re-inverted' version</td>
<td>'flute' version (new version)</td>
<td>Rondo 3</td>
<td>bagpipe version (fragmented)</td>
<td>Rondo 5</td>
<td>A* A*</td>
</tr>
</tbody>
</table>

(Total length: 281 bars)
From this diagram we can see more clearly where the aborted 'bagpipe' episode originally fitted into the scheme of the movement. It is not the only passage to be removed from the second version, however; the original third and fourth rondo statements are replaced by a single, fragmented and extended 'strophe' (rondo 3, bb.157-171, in the third and final version). In all, the final version is 135 bars shorter than the second one. With the assistance of Somfai's 'commentary' we are able to follow the second version of this movement in the facsimile edition of the second draft.

Of the six 'strophes' from rondo 3 and 4 to be removed from the second version, four are unlike the other varied versions of the rondo theme. These are marked 'scherzando character' in the diagram above. As can be seen, they symmetrically encase the bagpipe episode. Unlike the rhythmically and melodically extended rondo statements or the folk genre-imitations in the episodes, these 'scherzando' versions rely on pianistic methods of variation, featuring changes in articulation, tessitura, octave doublings and extensive use of grace-notes and rolled-chords. They belong to Bartók's ironic, humourous style which is epitomized by pieces such as 'A Bit Drunk' from the composer's Three Burlesques. Such musical ideas are common in Bartók's finales, but these 'scherzando' versions seem a little incongruous in the context of the forceful momentum of the rest of the movement. Along with the bagpipe episode, they provide too much contrast and variety. Their removal brings this movement more into proportion with the other movements and prevents a sagging in momentum. As Somfai also points out, the second version above contains no less than nineteen complete 'strophes' of the main tune, which is too many within a single movement; as a result, a certain tiresome inevitability in the direction of the music begins to set in.
APPENDIX 4: GOLDEN SECTION CALCULATIONS IN THE WORKS UNDER STUDY

The golden section is represented by the numerical proportion, 0.382 : 0.618 approximately. For the purposes of our calculations, the number of beats in various formal units of the works under study are multiplied by 0.618 and the product is referred back to the score, to ascertain whether or not it coincides with a significant structural event. In pieces where tempo giusto is maintained almost all the way through and the rhythm of the music is characterised by an endless stream of half-beats (PS, I, III, Contrasts, III and VS1, III) the calculation is made in terms of half-beats (quavers in all cases). The product that results from the multiplication of a number of beats or half-beats by 0.618 represents one type of golden section proportion; the large followed by the small section. For example, if we multiply 500 beats by 0.618 the product is 306 beats; thus, the golden section proportion of 500 beats is 306 : 194, where the large section precedes the small one (labelled the 'positive' section by Lendvai). To obtain the reverse proportion (the 'negative' section), we simply subtract our product from the original total of beats; in the example above, we would subtract 306 from 500, to obtain the reverse proportion, 194 : 306.

The following list of calculations is not exhaustive. To the author's mind, however, enough are performed to be able to make definite conclusions about the relevance of the golden section in the works under study. The reader is referred to the 'Formal Analysis' for a compact layout of the main structural features in these works. By comparing it with the products below, it is possible to verify my conclusions.

N.C. is an abbreviation for 'no coincidence'
C.C. is an abbreviation for 'close to coincidence'
(There are, with one minor exception, no exact coincidences)
approx. is an abbreviation for approximately
Products are rounded off to one decimal place.

The expression 'x crotchets (or quavers) = b.y' means that after x number of crotchets (or quavers), the music is in bar y; this does not necessarily mean x coincides with the beginning of the bar.

PS, I, (sonata form):

(1) Proportions of exposition, development, recapitulation in relation to the whole.

Total number of quavers = 1098
\[ \times 0.618 \]
\[ 678.564 = 678.5 \text{ approx.} \]

678.5 quavers = b.166 approx., N.C. (recapitulation begins in b.187)

Reverse proportion: 1098 - 678.5 = 419.5 quavers, = b.103 approx., N.C.

(2) Proportions of exposition in relation to development and recapitulation.

Exposition = 547 quavers, the rest = 551, N.C., but an almost exact bisection (halving of the length).

(3) Exposition: first subject group in proportion to second subject group.

Exposition = 547 quavers;
\[ \frac{547}{\times 0.618} \]
\[ 338.046 = 338 \text{ quavers approx.} \]

338 quavers = b.83 approx., N.C.

Reverse proportion: 547 - 338 = 209 quavers, = b.51 approx., N.C.

(4) Proportion of coda to recapitulation

Total recapitulation = 328 quavers;
\[ \frac{328}{\times 0.618} \]
\[ 202.704 = 202.5 \text{ approx.} \]

202.5 quavers = b.238 approx., N.C.
**PS, II: (Ternary form)**

(5) Proportion of three main sections to the whole.

Total number of crotchets = 364
\[ \times 0.618 \]
\[ \overline{224.952} = 225 \text{ approx.} \]

225 crotchets = b.38, N.C. (third section begins in b.41)

Reverse proportion: 364 - 225 = 139, = b.22, N.C. (second section begins in b.30)

(6) First section in proportion to second section.

Total number of crotchets = 241
\[ \times 0.618 \]
\[ \overline{148.938} = 149 \text{ approx.} \]

149 crotchets = b.24, N.C. (second section begins in b.30)

Reverse proportion: 241 - 149 = 92, = b.14, N.C.

(7) Second section in proportion to third section.

Total number of crotchets = 185
\[ \times 0.618 \]
\[ \overline{114.33} = 114 \text{ approx.} \]

114 crotchets = b.50, N.C.

Reverse proportion: 185 - 114 = 71, = b.43, N.C.

**PS, III (Rondo form with elements of sonata form):**

(8) Relation of main sections to whole

Total number of quavers (half-beats) = 1169
\[ \times 0.618 \]
\[ \overline{722.442} = 722.5 \text{ approx.} \]

722.5 quavers = b.172, N.C. (third rondo statement, 'recapitulation', begins in b.157)

Reverse proportion: 1169 - 722.5 = 446.5 approx., = b.113, N.C. (although fairly close to the beginning of the 're-inverted' theme and 'development', b.111.)
(9) Division of first section (rondo I + episode I, bb.1-91).
Total number of quavers = \[ \frac{356}{0.618} \] 
223.098 = 223 approx.
223 quavers = b.56, N.C. (first episode begins in b.53)

(10) Division of second section (rondo 2 + episode 2; bb.92-156)
Total number of quavers = \[ \frac{298}{0.618} \] 
184.164 = 184 approx.
184 quavers = b.139, N.C. (second episode begins in b.143)

(11) Division of b.227-end (lead-in to Rondo 4, Rondo 4 and coda)
Total number of quavers = \[ \frac{227}{0.618} \] 
140.286 = 140 approx.
140 quavers = b.260, N.C. (coda begins in b.264)
Reverse proportion: 227 - 140 = 87, = b.248, coincides exactly with the beginning of Rondo 4.

Contrasts, I (Ternary form):

(12) Proportions between the three main sections:
Total number of crotchet beats (including cadenza) = \[ \frac{423}{0.618} \] 
261.414 = 261.5 approx.
261.5 crotchets = b.65, N.C. (recapitulation begins in b.57)
Reverse proportion: 423 - 261.5 = 161.5, = b.41, N.C. (second section begins in b.30)
(13) Division of third section (recapitulation):
Total number of crotchets = 196
\( \times 0.618 \)
\[ 121.128 = 121 \text{ approx.} \]
121 crotchets = b.85, C.C. (coda begins at the Tempo I after 119 crotchets, in b.85)

\textit{Contrasts}, II (Ternary form):

(14) Relation of main sections to whole
Total number of crotchet beats = 250
\( \times 0.618 \)
\[ 154.5 \text{ approx.} \]
154.5 crotchets = b.34, N.C. (recapitulation begins in b.29)
Reverse Proportion: 250 - 154.5 = 95.5, = b.23, N.C. (second section begins in b.19)

(15) Relation between main sections
Relation between first and second sections: total number of crotchets = 122
\( \times 0.618 \)
\[ 73.396 = 73.5 \text{ approx.} \]
73.5 crotchets = end of b.17, C.C. (first section ends after 18 bars)

(16) Division of the third section (AV + coda):
Total number of crotchets = 128
\( \times 0.618 \)
\[ 79.104 = 79 \text{ approx.} \]
79 crotchets = b.42, N.C. (coda begins in b.45)
(17) Division of section A V:

Total number of crotchets = $\frac{90 \times 0.618}{55.62} = 55.5$ approx.

55.5 crotchets = b.38, N.C.

Contrasts, III (ternary form):

(18) Relation of main sections to whole

Total number of quavers (half-beats) = $\frac{1746 \times 0.618}{1079.028} = 1079$ approx.

1079 quavers = b.186, N.C. (third section or recapitulation begins b.169. B.186 is, however, the start of the *piu mosso*, the 'jazz' episode, based on an elaboration of theme 3).

Reverse proportion = 1746 - 1010 = 667 quavers, = b.142, N.C. (second section begins in b.132).

(19) Relation between main sections

Relation between the first and second section: total number of quavers = $\frac{1010 \times 0.618}{624.18} = 624$ approx.

624 quavers = b.138, N.C. (second section begins in b.132)

(20) Relation between the second and third sections: total number of quavers = $\frac{1217 \times 0.618}{752.106} = 752$ approx.

752 quavers = 25th bar of violin cadenza (b.212), N.C.

Reverse proportion: 1217 - 752 = 465 quavers, = b.167, C.C. (third section begins in b.169; however, since the bars in the second section each contain 13 beats, the coincidence is not very close).
VSI, I (sonata form; considering the large number of tempo changes in this movement, the golden section proportions would seem to have little relevance)

(21) Relation of main sections to whole

Total number of crotchet beats = \( 800 \times 0.618 \)
\[ \overline{494.4} = 494.5 \text{ approx.} \]

494.5 crotchets = \( \underline{18}\) b.5, N.C. (recapitulation occurs at \( \underline{20} \))

Reverse proportion: 800 - 494.5 = 305.5, = \( \underline{11}\) b.4, N.C. (development begins in b.3 \( \underline{11}\))

(22) Division of exposition

Total number of crotchets = \( 287.5 \times 0.618 \)
\[ \overline{177.675} = 177.5 \text{ approx.} \]

177.5 crotchets = \( \underline{3}\) b.7, C.C. (second subject group begins in b.1 \( \underline{7}\))

VSI, II (ternary form; the same note above applies here)

(23) Relation of main sections to whole:

Total number of quavers = \( 656 \times 0.618 \)
\[ \overline{405.408} = 405.5 \text{ approx.} \]

405.5 quavers = \( \underline{5}\) b.2, N.C. (second section begins at \( \underline{4}\))

Reverse proportion: 656 - 405.5 = 250.5 quavers, = \( \underline{2}\) b.11, N.C.

Division of main sections:(23)

Division of first section: total number of quavers = \( 335 \times 0.618 \)
\[ \overline{207.03} = 207 \text{ approx.} \]

207 quavers = \( \underline{2}\) b.4, N.C. (second occurrence of violin theme begins at \( \underline{2}\)).

(24) Division of second section: total number of quavers = \( 170 \times 0.618 \)
\[ \overline{105.06} = 105 \text{ approx.} \]

105 quavers = \( \underline{7}\) b.2, C.C. (section A\( \uparrow\) begins at \( \underline{7}\); considering the slowness of the tempo, however, the coincidence is not very close).
(25) Division of third section: total number of quavers = \(151\) 
\[x 0.618\] 
\[93.318 = 93.5\text{ approx.}\]

93.5 quavers = \([2]\) b.4, N.C. (second varied occurrence of violin theme begins at \([12]\))

VSI, III (sonata-rondo form; the same note above applies here, to a slightly lesser extent)

(26) Relation of main sections to whole:
Total number of quavers (half-beats) = \(2319\) 
\[x 0.618\] 
\[1433.142 = 1433\text{ approx.}\]

1433 quavers = \([31]\) b.2, N.C. (recapitulation begins at \([33]\)).

Reverse proportion: \(2319 - 1433 = 886\) approx.

886 quavers = \([22]\) b.1, C.C. (second rondo theme statement and beginning of development occurs at \([22]\). In other words, the exposition relates to the rest of the movement in the approximate proportion of \(0.382 : 0.618\).

Division of main sections:

(27) Division of exposition; total number of quavers = \(883\) 
\[x 0.618\] 
\[545.694 = 545.5\text{ approx.}\]

545.5 quavers = \([12]\) b.7, N.C. (theme 3 begins at \([12]\))

Reverse proportion: \(883 - 545.5 = 337.5 = [7] b.1, N.C. (theme 2 begins at [8])

(28) Division of recapitulation; total number of quavers = \(818\) 
\[x 0.618\] 
\[505.524 = 505.5\text{ approx.}\]

505.5 quavers = \([44]\) b.2, C.C. (coda begins at \([44]\); in other words, the recapitulation and coda are approximately in the proportion \(0.618 : 0.382\))

From the calculations above we can conclude that there is no significant use of the golden section in the works under study.
APPENDIX 5: BIBLIOGRAPHY

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(c) Bartók - analytical studies


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APPENDIX 6:

DISCOGRAPHY

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General


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